DOCUMENT RESUME

ED 079 304 SP 006 725

AUTHOR	Bowers, Carolyn O., Ed.
TITLE	Selected Gymnastics Articles. Sports Articles Reprint Series. First Edition.
INSTITUTION	American Association for Health, Physical Education, and Recreation, Washington, D.C. Div. for Girls and Women's Sports.
PUB DATE	71
NOTE	130p.
AVAILABLE FROM	American Association for Health, Physical Education, and Recreation, 1201 Sixteenth St., N. W., Washington, D. C. 20036 ($1.50)
EDRS PRICE	MF-$0.65 HC Not Available from EDRS.
DESCRIPTORS	*Athletic Activities; Criteria; *Exercise (Physiology); *Physical Education; Specifications; *Womens Education; *Womens Studies
IDENTIFIERS	*Gymnastics; Womens Athletics

ABSTRACT

This is a collection of the best articles in the "DGWS (Division for Girls and Women's Sports) Gymnastics Guide" from 1963 to 1972. Included are the current Federation of International Gymnastics rule interpretations from the 1972-74 Gymnastics Guide. The articles have been edited to conform with the new rules and regulations from the Federation of International Gymnastics. The articles in this edition are categorized according to gymnastics for the physical education program, specialized skills, theory, and competition. Line diagrams are included as illustrations. (Editor/JA)

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SP 006 725

CAROLYN O. BOWERS, Editor
Bowling Green, Ohio

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Library of Congress Catalog Card No. 78-175621

Published by the

AMERICAN ASSOCIATION FOR HEALTH,
PHYSICAL EDUCATION, AND RECREATION

A National Affiliate of the National Education Association

1201 Sixteenth St., N.W. Washington, D.C. 20036

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Preface

This is the first edition of *Selected Gymnastics Articles*, a collection of the best articles in the *DGWS Gymnastics Guides* from 1963 to 1972. Included also are the current FIG rule interpretations from the 1972-1974 *Gymnastics Guide*. The articles have been edited to conform with the new rules and regulations from the Federation of International Gymnastics.

The articles in this edition are catagorized according to gymnastics for the physical education program, specialized skills, theory, and competition. They were selected for their usefulness as shown by a survey conducted by the 1969-1972 *Gymnastics Guide* Committee. The editor wishes to express appreciation to this Committee for its help in finding what materials are most appropriate for students, teachers, and coaches.

Carolyn Bowers
Editor

Gymnastics in the Physical Education Program

Scope of Gymnastics

In view of the fact that the term *gymnastics* has been subject to several different interpretations in regard to both the activity referred to and the equipment used, the following outline has been prepared by the Gymnastics Committee. This scope represents contemporary thinking in gymnastics.

1. Apparatus

- Balance beam
- Buck
- Parallel bars
- Uneven parallel bars
- Horizontal bar
- Horse
- Rings
- Swedish box
- Trampoline
- Mini-tramp
- Mats
- Climbing pole
- Climbing rope
- Ladder
- Low parallel bars
- Stall bars
- Beat board
- Reuther board
- Springboard

2. Hand Apparatus

- Balls
- Jump ropes
- Wands
- Indian clubs
- Hoops
- Others, such as ribbons, scarves, etc.

3. Free Movement

- Limbering or warm-up exercises
- Conditioning
- Dance movements
- Rhythmic movements, calisthenics, and/or exercises

4. Stunts and Tumbling

5. Floor Exercise

6. Modern Gymnastics*

Note: The following events comprise the Federation of International Gymnastics (FIG) all-around program:

- Balance beam
- Uneven parallel bars
- Horse valuting
- Floor exercise

*Modern Gymnastics: Governed by FIG with a separate set of rules. Modern gymnastics is defined as free movement executed with hand apparatus and may be performed individually or in a team drill.

Modern Gymnastics

ANDREA BODO SCHMID
San Francisco State College
San Francisco, California

History

Modern gymnastics grew from rhythmic gymnastics. The first impetus to the development of this new women's sport was the elimination of team competition in rhythmic gymnastics after the 1956 Olympic Games. Berthe Villancher of France, Valeri Nagy Herpich of Hungary, and other international leaders still felt that rhythmic gymnastics events were very important. Efforts were made to develop rhythmic gymnastics into a competitive sport. The first test of this new competitive sport was the first World's Championship, held in 1963 in Budapest, Hungary. The second World's Championship was conducted in 1965 in Prague, Czechoslovakia. This championship meet was planned under the direction of the Federation of International Gymnastics (FIG), the world governing body for the sport of gymnastics. For unification of opinions and ideas as to the evaluations of the routines, an international judges clinic was called by the FIG three months before the second World's Championship. The FIG Committee of Women at this meeting set the direction of this new sport: "Modern gymnastics is neither ballet nor modern dance, it should develop its own style – it is a sport of natural body movement." The second World's Championship in modern gymnastics was a competition of individuals. Thirty-five contestants from 12 countries participated. The third World's Championship was held in Copenhagen, Denmark, in November 1967. Thirty-nine competitors from 14 countries participated. Team competition was added as a separate event for the first time. The individual and team competition is separate; an individual may enter either in individual or team competition or in both.

This new sport has many guidelines yet to be established; therefore, the FIG established a separate section for modern gymnastics. In Prague, in September 1968, the FIG Committee of Modern Gymnastics conducted a one-week international judges clinic in order to clarify difficulty of exercise and elements for composition, and to give direction for the future development of the sport. The fourth World's Championship was held in Sofia, Bulgaria in 1969.*

*Information was gained through personal letters with FIG technical committee member Valeri Nagy Herpich of Hungary.

Rules

Modern gymnastics includes compulsory and optional exercise with hand apparatus and also free floor routines without hand apparatus.

All exercises are judged on a 10-point scale, by tenths of a point, distributed as follows:

3 points for difficulty
2 points for combination and technical value
5 points for execution and general impression.

The gymnast performs her exercise in an area of 12 x 12 meters (39 1/3 x 39 1/3 feet). She is expected to use the complete area. The exercise is executed with musical accompaniment and must correspond to the rhythm and mood of the music. The gymnast must make use of the entire body and move in harmony with the motion of the hand apparatus used. Exercises with hand apparatus (ropes, balls, hoops, Indian clubs, flags, scarfs, ribbons, etc.) must contain movements involving both the right and left hand.

Duration of the exercises:

Team competition (6 gymnasts doing the routine)–3½ to 4 minutes.
Individual competition–rope exercises, 1-1½ minutes; all other apparatus and free floor routine, 1½-2 minutes.

THE USE OF RIBBONS IN MODERN GYMNASTICS

Dimensions:

The length of the ribbon can vary; the longer the ribbon, the greater the skill required to work with it. The routine described in this article was choreographed with a ribbon 18 feet long by 8½ inches wide attached to the end of a 2½-foot long wooden stick with a ½-inch diameter.

Music:

The use of music adds to the enjoyment of learning modern gymnastics techniques and helps the gymnast to move in harmony with the motion of the hand apparatus. Music from composers such as Bartok, Brahms, Chopin, Kodaly, Liszt, and Tchaikovsky is suitable. Even popular music may be used if the rhythm is good. Popular music will interest students, especially if they are creating their own sequences of patterns.

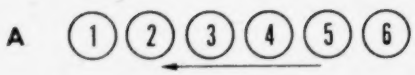
Teaching Progression:

1. *Play* with the ribbon, swinging and circling it to the music. Let the students experiment with the ribbon using both hands.
2. *Body Wave*–while the right arm is circling and the body is performing a body wave, the left hand remains in the forward horizontal position. Change hands.
3. *Forward and backward swing*–swing ribbon forward and backward and change in back of the body with continuous movement; swing with the other hand.
4. *Circle in front of the body*–hold ribbon in the right hand to the side. Make circles of the ribbon in front of the body. Vary the size of circles (i.e., do two large ones and one small one). Repeat on opposite side.
5. *Circle overhead*–perform horizontal circles with the ribbon around the top of the head. Do the same movement walking forward or backward.
6. *Horizontal circles*–do a horizontal circle over the head with a forward step, and a low horizontal circle in front of the body, trunk slightly bent forward with backward step. Repeat with the other hand.
7. *Low circling with jump*–hold ribbon in right hand, to the right side. Swing the ribbon low to the left side. As the ribbon almost hits the left foot, jump over it and continue the circle. Repeat to the opposite side. Vary the jump (i.e., do a few running steps, cat leap).
8. *Figure 8 sideward*–with the right arm in front extension, ribbon in right hand, swing the ribbon backward outside of the left shoulder, then circle backward outside of the right shoulder. Repeat with other hand.
9. *Spiral*–do four fast horizontal circles consecutively above the head (the first one is the largest, the last one is the smallest). Then swing the arm to the side. Repeat with other hand.
10. *Wave*–turn completely around and wave the ribbon around you with arm extended horizontally as you turn. Repeat to opposite side.

Routine for Six:

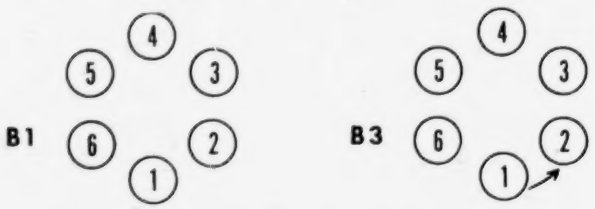
Note: Never allow the ribbon to stop; it must move at all times.

A. Forming a line
With the ribbon in the right hand, run in and pull ribbon on the floor. Finish with a large circle overhead.



B. Forming a circle

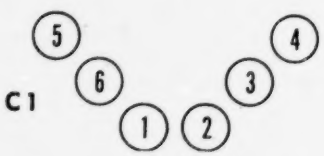
1. With running steps forward, make circles of the ribbon in front of the body. Do one large one and one small one. Continue until the circle is formed.



2. Face the center of the circle and do a spiral, then a large circle overhead and a body wave. Change the ribbon to the left hand and repeat combination No. 2.
3. Walk around counterclockwise and repeat No. 1 with the left hand. Finish back to center of circle.
4. Do a figure 8 sideward, first with the left hand then with the right hand. Repeat No. 4.

C. Forming a "V"

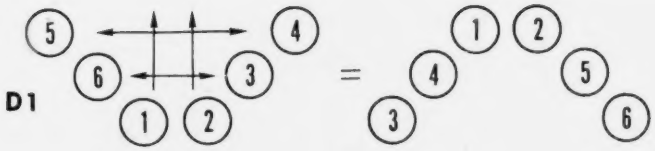
1. Do slow chaines turns and wave ribbon around at waist height. Continue until "V" is formed.



2. Repeat No. 4 in Part B.
3. Do two horizontal circles facing forward.

D. Forming an inverted "V"

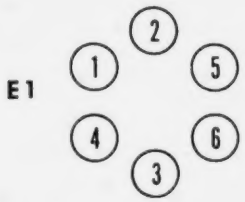
1. Skip forward with forward and backward swings. Continue until inverted "V" is formed.



2. Face forward and finish with No. 2, Part B.

E. Forming a circle

1. Form a circle with four low circles and cat leaps. Between each cat leap do a large circle overhead.



2. Glissade into the circle, with circling ribbon side of the body.
3. Do a spiral in the middle of the circle.
4. Glissade out of the circle and face counterclockwise.
5. Repeat No. 1, Part E.
6. Face forward; do a spiral with a jump and end in various poses with ribbons in various positions.

A Gymnastic Program for Elementary Schools

BETTY ANN MEYER
Illinois Teachers College
Chicago North

Gymnastics has been neglected in the elementary schools for various reasons but perhaps the predominant one is that the teacher has had no background in gymnastics and doesn't know what to teach or where to begin. To alleviate this problem, the following program is being presented. The skills will be classified first by grade area and according to types of movement on the apparatus, and then listed in order of difficulty, easy skills first. The lists are by no means complete but are sufficient for beginning a program of gymnastics at the elementary level.

FREE (FLOOR) EXERCISE

Floor exercises are most practical when presented as a group activity to elementary school classes. They can be used as warmup and conditioning exercises. Calisthenics, stunts, dance steps, and tumbling skills are combined into simple routines which can be performed to music. All movements in floor exercises and balance beam work should be soft and are based on ballet movements. The walks, hops, jumps, leaps, turns, and balances that are common to both floor exercises and balance beam will be described under the balance beam skills. They are to be combined with the tumbling skills that are listed below to form routines in floor exercises.

TUMBLING SKILLS

Primary Grades (1-3)

Sideward Roll. From a position on the hands and knees, bend the arms and lower body to one side, roll over onto the back, to the other side, and come back to a hand and knee position.

Supine Arch. Sit on floor, legs straight and together, hands placed on each side and slightly to the rear. Lift hips from floor and tip head back. Return to sitting position. (Figure 1).

Shoulder Stand. Lie on back, lift legs and hips up overhead and balance on shoulders. Use hands under hips for balance and support. (Figure 2).

Low Cartwheel. Do a cartwheel but without the full extension of the hips. Legs will kick out in a circle rather than overhead.

Routines. Combine basic material from the balance beam section and tumbling to devise 8 to 16 count routines of simple movements that can be done within a limited area. The same routine may be repeated several times in succession.

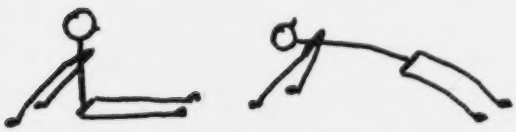


Figure 1
Supine Arch

Figure 2
Shoulder Stand

Intermediate Grades (4-6)

Forward Roll. Place hands on floor while in squat position, tuck head under and near feet, lift hips, and roll over forward into a squat position. Variations of the forward roll may also be used, such as a pike roll or a straddle roll. (Figure 3).

Single knee back bend. Kneel down on one knee, the other foot on floor in front. Raise both arms over head, arch back with head tipped back. (Figure 4).

Headstand. Place hands and head in triangular pattern on floor and kick up to a balance on the head and hands. Skilled students may do a forward roll out of this balance. (Figure 5).

Cartwheel. Do a cartwheel with full extension of the hips. (Figure 6).

Routines. Increase the routines to 32 counts, add new skills and expand the area to be covered. Use a variety of floor formations.

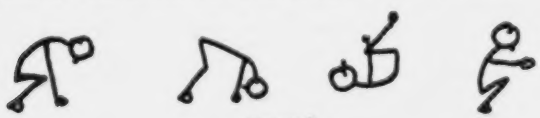


Figure 3
Forward Roll

Figure 4
Single Knee
Back Bend

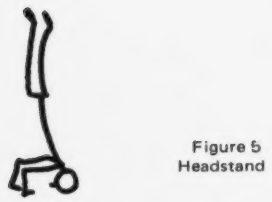


Figure 5
Headstand

Figure 6
Cartwheel

Upper Grades (7-8)

Backward Roll. Squat down, keeping the head down, the body tucked, and the hands at the shoulders. Sit back, roll backward until the body weight is over the shoulders. Place the hands on the floor and push hard to lift the body enough to let the head slip through to complete the roll. May be done with variations, such as a straddle roll or with an extension into momentary handstand and snap down. (Figure 7).

Back Bend. Lie down on floor, and bend knees so that feet are flat on the floor and close to the buttocks, but not together. Place hands on floor at shoulders. Arch body by pushing stomach upward. Straighten arms and legs, tip head back. (Figure 8).

Momentary Handstand. Kick up to a momentary handstand. Variations may be added by snapping down from the handstand position, adding a switch kick, or arching over into a backbend or walkover.

Round-off. The round-off is a good skill to use before going into a backward roll.

Routines. Increase routines to 64 counts, add more difficult skills, and expand the area covered as much as possible. Continue to teach as a group activity unless there is enough time in the program to work on individual routines. If this is possible, encourage the students to develop their own routines to their own choice of music.

Figure 7
Backward Roll

Figure 8
Backbend

UNEVEN PARALLEL BARS

Children like to work on the uneven parallel bars but should be mainly concerned with the hanging activities rather than the skills in the support position. The use of soft chalk (magnesium carbonate) on the hands helps absorb perspiration and gives the performer a better grip on the bars.

Improvising equipment. Even parallel bars may be made into uneven bars by raising one bar and lowering the other bar as far as possible. In the intermediate and upper grades there may not be enough clearance between the bars for the advanced skills with this arrangement. In this case, one bar may be removed completely, leaving the other bar as a horizontal bar on which the skills can be learned. A horizontal bar may be used to learn some of the skills if no uneven or parallel bars are present.

PRIMARY GRADES

Mounts and Dismounts

Front support–dismount backward. Place hands on lower bar, jump up to a support position on the hands. Lift legs backward and push off to stand on facing bar (Figure 9). Spot by lifting on upper arm of performer. From the support position dismount also by rolling off forward over the bar.

Figure 9

Single knee hang. Hang from lower bar in a lean hang position. Lift right leg to bar between hands and hook right knee on bar. Arch body, straighten left leg, and hang from bar from hands and one knee. To dismount, bring left leg up between hands to join right leg and turn over backward to stand (skin the cat) (Figure 10). Spot by holding one wrist of performer throughout drill.

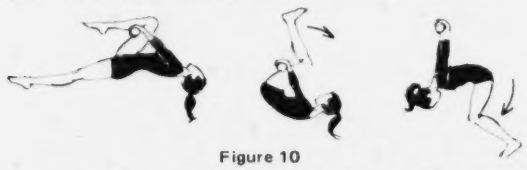


Figure 10

Double knee hang. Bring both feet up through and between hands on bar and hook both knees on bar. Release hands and hang down from knees. Return hands to bar and turn over into skin-the-cat to a stand.

Circles

Sideward crotch circle (airplane spin). Jump to a support position on the low bar. Lift the right leg over the bar to a crotch seat. Turn a quarter-turn to the left and face one end of the bar. Hold the bar with both hands in front of the thighs. Cross the legs at the ankles, then fall sideward; circle under the bar with the body, and come back up on the other side (Figure 11). Spot performer by standing and facing her on side of bar opposite the one where the fall will begin. As the performer comes around under the bar, grasp the nearest upper arm and shoulder and lift up to a crotch seat on the bar.

Figure 11

Connecting Moves

One-leg squat. From a crotch seat on the low bar, facing one end of the bar, lift the right leg up and place the right foot on top of the bar; reach forward with the right hand (left hand on high bar), swing the left leg down, grasp the bar, and pull up into a squat on the right leg (Figure 12).

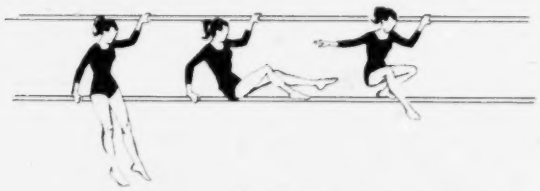


Figure 12

Back pullaway (back stretch). Stand on low bar facing high bar; hold high bar with both hands. Lift left leg from low bar and stretch it backward, leaning back against hands at same time (Figure 13). Spot performer by holding right foot steady on bar.

Figure 13

Swings

Cast and swing. On a single bar (remove low bar, or use horizontal bar), hang from the bar, hands in an overhand grip. Lift both legs by bending at the hips, push forward on the feet and at end of forward movement arch the body and swing back. Repeat several times, lifting the legs to obtain a forward swing, arching on the back swing (Figure 14). Spotter stops performer after several swings for dismount. Release grip and drop to stand.

Figure 14

INTERMEDIATE GRADES

Mounts and Dismounts

Scissors kick mount. Stand between bars facing one end. Jump to catch left hand on high bar, right hand on low bar. Swing the right leg, then the left, up and over the low bar to a side seat on the low bar. Leg swing can be facilitated by pulling with the left hand and pushing up on the right hand (Figure 15). From the side seat position a simple dismount would be a jump off sideward to a stand. Spotter stands outside low bar and in back of performer and holds the upper right arm to assist performer to a balanced position on bar.

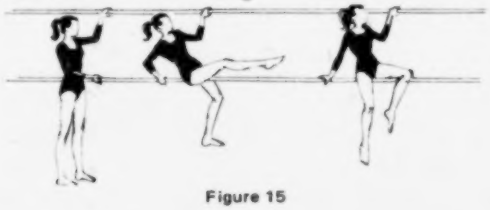


Figure 15

Single knee mount. From the single knee hang position (primary grades), lift the left leg up to the bar and tuck the body, but keep the arms straight. Keeping the left leg straight, whip it downward; at the same time pull the body upward with the hands. Finish in a stride seat on top of the low bar (Figure 16). Spotter stands on left side of performer and on side of bar where left leg is extended. Spotter's left hand is placed on left thigh of performer, just above the knee. Spotter's right hand reaches over bar and holds upper arm of performer. As performer kicks left leg down, spotter helps by pushing down and back on the leg and pulling up on the arm. Hold performer until balance is established. Dismount by reversing movement.

Figure 16

Hip pullover to high bar. From a hang on the high bar facing the low bar, lift both feet up and place them on the low bar. Extend the left leg forward, knee straight. Kick the left leg up and over the high bar, push up from the right foot and pull with the arms to bring the hips up to the high bar. Turn over the high bar on the hips to a front support position. Reverse movement to dismount (Figure 17). Spotter stands between bars and to one side of performer. As performer kicks up, spotter lifts up on hips to give performer a boost. As performer's legs come over high bar, spotter can grasp them to control balance.

Figure 17

Circles

Single knee circle backwards. Use a single knee mount to a stride seat on the low bar. Push the body back against the right knee, which will hook on the bar; cast the left leg back, then whip the left leg forward and around the bar, keeping the left knee straight. Circle backward once around the bar on the right knee and hands. Finish in a stride seat on top of the bar (Figure 18). Spotter stands to left side of performer as in the single knee mount. As performer drops under the bar and begins to rise, spotter grasps shoulders and lifts up until performer is on top of bar.

Figure 18

Connecting Moves

V-Sit. Sit on low bar facing one end of bars, one hand on high bar, one on low bar behind the body. Lift legs up into a V-sit and balance on buttocks and hands. Knees should be straight and toes pointed, back erect and head up (Figure 19). Move out of this position with one-leg squat (primary grades). Spotter stands to one side of performer and holds hips or upper arm to assist in balance.

Scale. Stand on low bar, one hand on high bar. Lift one leg to a scale position (see floor ex.). This move could follow the one leg squat (Figure 20).

Figure 19

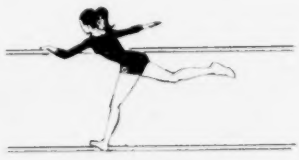


Figure 20

Swings

Swing-drop on back swing. On a single bar, hands in an overhand grip, swing forward and back and on the *end* of a back swing release the grip and drop to a stand. Spotter stands to side and in back of performer where drop off will be done.

UPPER GRADES

Mounts and Dismounts

Thigh turn. Hang from high bar, back to the low bar, hands in overhand grip. Bring feet up between hands and turn over as in skin the cat. As legs come over in back, slide them on top of the low bar until the low bar is resting against the front of the thighs, just above the knees. Release the right hand and let the body turn naturally on the left hand and the thighs to a side seat on the low bar (Figure 21). Spotter stands on right side of performer and between the bars. As the performer releases the right hand, the spotter steps in and grasps the hips of the performer. Hold until the performer is on balance.

Figure 21

Stem rise. Hang from the high bar facing the low bar. Place the right foot on the low bar and extend the left leg upward, the ankle near the high bar. Push back and up from the right foot and pull the hips up to the high bar with the hands while the left leg slides upward close to the bar and then swings to join the right leg in a front support on the high bar (Figure 22). Spotter stands to one side and behind performer and lifts up on the hips as the performer pushes up.

Hip pullover. Stand facing the low bar, hands in overhand grip. Kick one leg, then the other up in front and over the bar while pulling with the arms. Turn over the bar on the hips to a front support position. The secret of success in this skill is to get the hips up to the bar as fast as possible and keep them there. Spotter stands on opposite side of bar and as performer kicks legs up, spotter assists by lifting the legs up and over the bar.

Single leg flank dismount. From a stride seat on the low bar with the left leg in front and left hand in undergrip, lift the right leg up and over low bar to dismount with a quarter-turn left. The body should turn as soon as the leg clears the bar and should arch in flight. Use right arm swing to assist in dismounting.

Figure 22

Circles

Backward hip circle. From a support position on the bar, cast the legs up in back; straight body returns to bar, hips touch, and legs whip forward and under the bar. At the same time bend in the hips and circle around the bar once on the hips and hands. Finish in a support position on the bar. Spotter stands in front of bar to the side of performer; receives legs after they pass under bar and supports the upper thigh to help keep the body against the bar.

Stride circle forward. From a stride seat on the low bar, hands in undergrip, lift the body to a high support position. Stretch the upper body, begin to fall forward and force the forward leg, full thrust, down and around the bar. A straight body will help to keep the bar high on the thighs. Finish in a stride support. Spotter assists the same way as in the hip pullover. Secret again is to keep the hips in contact with the bar. Spotter stands in back and to the side of performer; reaches under bar and up to grasp performer's wrist to help momentum; free hand receives under the back to aid return to stride seat.

Connecting Movements

Thigh balance. From a front support on the low bar release the hands, arch the back, and lift the legs up to a balance on the thighs on the low bar (Figure 23). Spotter stands in front of bar and holds shoulder of performer for balance. Move up to high bar after learning skill on low bar.

Figure 23

Swings

Swing and turn. While swinging, on forward swing release one hand and regrasp the bar, after crossing the hands, with a reverse grip. Immediately release and turn the other hand to the same grip. Swing is now done facing the other direction.

Routines

In all grades and as soon as possible, begin combining skills into routines. Move from one bar to the other and do not hold any positions for any length of time.

Teaching Floor Exercise to Large Classes

Jacqueline K. Uphues
Chicago, Illinois

When presenting beginning floor exercise to large classes, individual floor space is quite limited. Floor patterns must be kept basic with the emphasis on proper content. Compulsory or prescribed movements, combinations, and short routines must be presented first in order to provide the gymnast with a good comprehensive foundation in gymnastic movement. Through these given sequences the gymnast is also exposed to various styles. She will eventually select and then incorporate those movements which fit her own individual creative performance. Do not expect students to create their own individual sequences until many of these short routines can be performed with accuracy, flair, feeling, and showmanship.

One effective method begins with a presentation of several introductory measures that set the tempo and direction for movement. The student is then asked to complete the sequence by creating an additional four to twelve measures which would include one or more specified movements. Consider the following example:

Problem 1. Perform measures 1 through 4 in Sequence 2, Combination B. Create an additional eight measures including a backward leaping movement, a backward roll, and/or a full arabesque turn.

Problem 2. Create eight measures of optional floor exercise including a cartwheel and hitchkick.

The knowledge and ingenuity of the teacher will determine the number of such movement problems that can be presented.

When all members of a large class practice simultaneously to music and each member achieves a short combination, it is absolutely necessary to clearly specify *one* direction for movement and the maximum distance in feet. These small restrictions must be imposed to avoid collision and confusion.

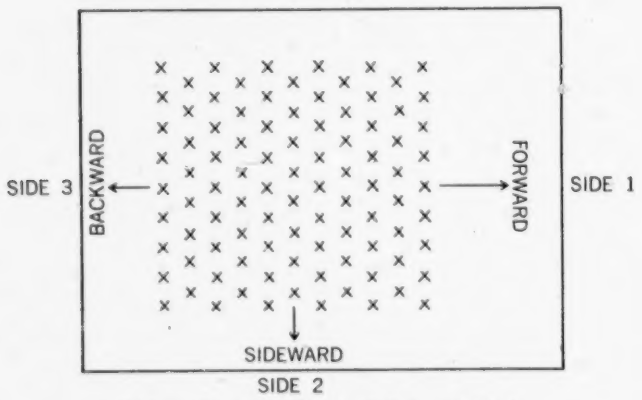
Dividing the class into smaller groups of five to eight students is another common way to organize large practice sessions. Each group is given a section of the gymnasium and assigned the same or different movement problems. This method allows for easier review, criticism, and evaluation of each group's short combination.

There is least confusion with the group method and the teacher is better able to make helpful suggestions and corrections. But remember that group compositions do not always result from an equal effort on the part of each member. Very often one or two of the more talented students compose the majority of the compositions.

Choose your own accompaniment and use pretaped musical selections in order to get varied tempos. If this is not possible, several new records for floor exercise are available.

Following are four sequences of floor exercise combinations for large class instruction (see Figure 1).

Figure 1 Spatial Measurement for Floor Exercise Sequence 1-4



Maximum Movement Forward: 22 ft. toward Side 1.
Maximum Movement Sideward: 8 ft. toward Side 3.
Maximum Movement Backward: 6 ft. toward Side 3.

Beginning and Low Intermediate Groups

Sequence 1. 16 measures, ¾ time, moderately slow.

Begin in 3rd position with right foot crossed in front of left, arms in low circle in front of and touching body (low 1st).

1. Step backward with flexed knee onto halftoe of right foot, step on halftoe of left foot crossed in back of right foot, shift weight forward and step onto halftoe of right foot (balance backward). Arms move from low circle in front of body (low 1st) through horizontal circle (high 1st) to a position with left arm high overhead and right arm sideward (3rd).
2. Straight waltz forward left, right, left, accenting the first step with a half squat step and rising on halftoe for the next two steps. Arms move sideward (2nd).

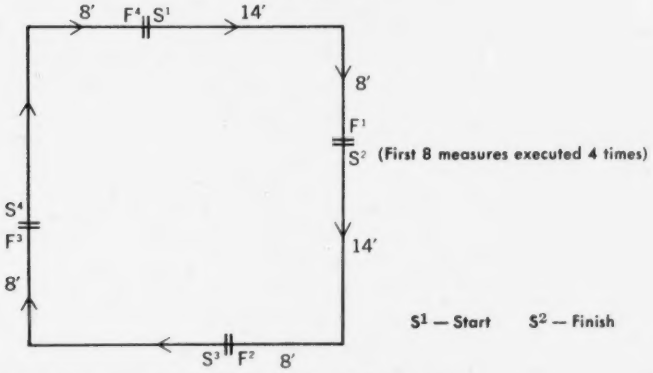
3. Step-hop on right foot with left knee bent and lifted high in front. Arms move downward and complete a full circle outward through overhead crown position (5th) to sideward (2nd).
4. Extend left leg forward to lunge left with body and head inclined forward. Arms move to an overhead position with wrists crossed right over left.
5. Left arm remains diagonally downward, right arm moves overhead with a half circle to a diagonally backward upward position, and head lifts.
6. 90 degree turn right to low straddle, arms sideward. Begin straddle forward roll keeping arms sideward and placing back of wrists on floor.
7. Continue forward roll to walkout on right foot, then left.
8. Finish in stand with pause on straight left leg, right leg extended in back with toe pointed on floor, left arm sideward and right arm high overhead (3rd), head turned left.

If sufficient floor space is available, execute measures one through eight four times, once in each direction moving clockwise (see Figure 2).

MEASURES 9 THROUGH 12, SLIGHTLY FASTER.

9. Step right sideward, hop right with left leg extended backward, left arm horizontally forward and right arm sideward, head left.
10. Waltz balance left sideward (left, right, left) crossing right foot in back of left. Both arms move across body to left side, head left.

Figure 2 Individual Movement Sequence 1



11. Step right sideward on halftoe and 180 degree turn right. Step left sideward on halftoe of left foot and 180 degree turn right (chené turn right). Right arm opens right sideward, both arms move to horizontal circle in front of body, and open to sideward again.
12. Continue turning 90 degrees on halftoe of right foot, close left to right, and pause with both knees flexed (half squat), body inclined slightly forward, arms diagonally downward backward (low rear) position.

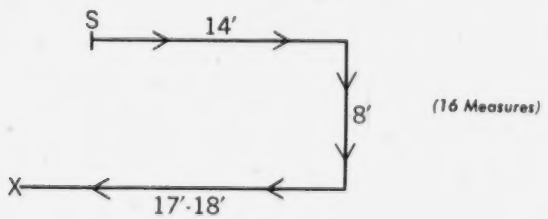
MEASURES 13 THROUGH 16, SLOWER.

13, 14. Dive forward roll or modified pike forward roll to single leg. Kneel on right knee with left leg forward, knee flexed, and foot on floor, arms horizontally forward, palms up.
15. Shift weight to left foot and lunge left, straightening right leg backwards. Arms move to diagonally backward downward (low rear) position. Head tilts backward.
16. Draw right foot to left and close in 3rd position. Arms close to low circle in front of and touching body (low 1st).
16a. Place toe of right foot on floor, move to kneel on right knee, sit on right heel, extend left leg forward, and bend body and head forward, arms extended diagonally downward backward (low rear).

Use 16a to end the second execution of Sequence 1. and/or when space does not permit a repeat of entire Sequence 1.

Repeat all 16 measures in opposite direction if space permits (see Figure 3).

Figure 3 Individual Movement Sequence 1



Sequence 2. 16 measures, ¾ time, moderately fast.

COMBINATION A

Stand in 3rd position with right foot crossed on front of left, arms in low circle in front of and touching body (low 1st).

1. Step forward right, close left in rear placing weight on right foot (chasse), arms sideward.
2. Step-hop right with left knee lifted high in front, arms extended diagonally upward outward (high outward).
3. Repeat 1 as above, stepping forward left.
4. Step left forward, kick right leg forward upward, hop on left foot, and 180 degree turn left to arabesque with right leg lifted in rear. Left arm moves forward upward to crown position overhead with right arm sideward (3rd).

COMBINATION B

Stand on right leg, knee partially flexed, straight left leg to rear with toe pointed on floor, left arm horizontally forward and right arm high overhead.

1. 90 degree turn left and step left sideward, close right foot to left (chasse), arm sideward.
2. 90 degree turn left on right, step left forward, kick right leg forward upward, spring from left leg, and 180 degree turn left in air to landing on right leg with left leg lifted in rear. Arms lower to circle in front of body, raise to crown position overhead, and finish sideward (tour jete).
3. Repeat 1, as above.
4. 90 degree turn left on right, step left forward, kick right leg forward upward, hop on left foot, and 180 degree turn left to arabesque with right leg lifted in rear. Left arm moves forward upward to crown position overhead, right arm sideward (3rd).

MEASURES 5 THROUGH 16, SLIGHTLY SLOWER.

Combine Combination A or B with the following:

5. Step backward on right halftoe and raise bent left knee high in front, arms sideward.
6, 7. Lean body forward and "single leg pike fall" backward with hand support into backward roll to knee scale (knee balance or arabesque) on left knee.
8. Hold knee scale.

8a. Bend right knee and sit on heels in tuck kneeling position. Extend arms overhead with palms on floor, head between arms. *Use 8a as a temporary ending when practicing the first 8 measures.*

9. 180 degree turn right to sit with right leg extended upward and left toe on floor with knee bent (half V sit), right arm diagonally forward upward (front upslant), and left arm diagonally downward in rear with palm on floor.
10. Bend right knee and place toes of both feet on floor.
11. 90 degree turn right to tuck kneeling position. Arms move through sideward to curled position in front of body, palms up.
12. Place palms on floor and sideward roll to right.
13. Extend right arm and right leg diagonally upward in direction of movement, shifting weight to left knee.
14. 90 degree turn right on left knee and place right foot on floor with knee bent at 90 degrees, arms left sideward.
15. Arabesque turn 360 degrees right. Right arm leads and opens to sideward.
16. Close left in back of right in 3rd position. Arms sideward in preparation for a repeat of Sequence 2 in the opposite direction, if space permits (see Figure 4).

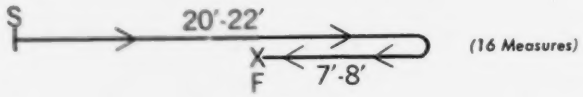


Figure 4 Individual Movement
Sequence 2

Sequence 3. 16 measures, ¾ time, moderately fast.

Stand in 3rd position with left foot in front—arms in low circle in front of and touching body. Move arms to sideward in preparation for the following:

1. Step forward left and cat leap (pas de chat) landing on right. Arms move downward and complete full circle outward through overhead (5th) to sideward position.
2. Step-hop left with right leg extended forward, body turned to right, and head right, left arm diagonally downward forward (front downslant) and right arm diagonally backward downward (low rear).
3. Repeat 1 as above, beginning with step on right foot.
4. Repeat 2 as above, with step-hop on right foot.
5. Step left, kick right leg forward upward, spring from left foot, land on right foot while lifting leg forward upward (hitch-kick).

Arms move downward and complete a full circle outward through overhead to sideward.

6. *Count 1*–Halfsquat step left forward into half lunge on left leg, moving arms to diagonally forward downward position with wrists crossed right over left.
   Count 2–Hold.
   Count 3–90 degree turn right on left foot. Right arm moves sharply overhead to sideward.
   Practice the first 6 measures as a unit.

MEASURES 7 THROUGH 10, SLOWER.

7. Cartwheel right, landing on left leg.
8. Step right, 180 degree turn right and kick left leg sideward upward. Arms move downward to low sideward and return to horizontal sideward (2nd).
9. Cartwheel left, landing on right leg.
10. Step left and curtsy with right foot crossed in back of left, arms left sideward upward, body bend right, head left.

MEASURES 11 THROUGH 14, MODERATELY FAST.

11. Step sideward right, step left crossing in back of right. Step sideward right, arms sideward.
12. Step left crossing in front of right, hop left with flexed right knee and right foot in rear. Body bend left, head left, left arm across body at hips, and right arm curved overhead.
13. Straighten body and step on right, crossing right foot in back of left. Step left sideward and step to right, crossing right foot in front of left, arms sideward.
14. 90 degree turn left on right foot, step left forward, kick right leg forward upward, hop on left foot and 180 degree turn left to kneel on right knee with left leg forward, foot on floor, and knee bent 90 degrees. Left arm moves forward upward (through horizontal forward) to crown position overhead, and right arm moves to sideward on turn.

MEASURES 15 AND 16, SLOWER.

15. Body and head bend backward in kneel on right knee. Right arm moves backward downward and circles forward upward to a diagonal backward position in line with head, left arm horizontally forward.
16. Body and head bend forward. Right arm moves forward and both arms circle forward downward to raise up in back (low rear). Place toes of bent left leg on floor.

16a. *(Alternate ending)* Extend left leg forward with foot on floor. Bend body and head forward, raise arms up in back in line with extended left leg.

Repeat all 16 measures in opposite direction if space permits (See Figure 5).

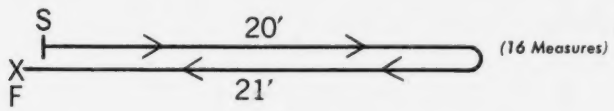


Figure 5 Individual Movement Sequence 3

Sequence 4. 16 measures, ¾ time, moderately slow.

Stand in 3rd position with right foot in front, arms in low circle in front of and touching body (low 1st).

1, 2. Raise right leg and arms forward upward, step forward right, tinsica or forward walkover landing on left foot. (Cartwheel may be substituted.)

3, 4. Step forward right, place hands on floor, kick to momentary handstand, drop to pike forward roll, body wave bringing arms overhead to sit on floor with legs extended forward (straight or long sit).

5. Continue arms forward, deep body bend forward, touch toes.

6. V sit, arms sideward or with hand support in rear.

7. Aided by a push from left hand close to hip, hip pivot with straight legs to right on left hip to front lying position, hands on floor in pushup position to either side of chest.

8. Push up into knee scale on left knee.

9. 180 degree turn right to kneel on left knee, right knee bent 90 degrees, and right foot on floor, arms sideward.

10, 11. Kick left leg upward to momentary split handstand. Change or scissor legs returning to scale on left leg, left arm diagonally forward downward (front downslant), and right arm diagonally backward upward (low rear).

12. Hold scale.

MEASURES 13 THROUGH 16, SLIGHTLY FASTER.

13. *Count 1*—Straighten body, bend right knee, and place arch of right foot touching side of left knee. Slight body bend forward

from hips, left arm horizontally forward (front), and right arm high overhead.

Count 2–Slight pause.

Count 3–Demi plie left and straighten right leg horizontally forward. Left arm diagnonally forward downward (front downslant) and right arm diagonally backward downward (low rear).

14. Step forward right, 90 degree turn right, and hop right as left leg kicks forward sideward, left arm sideward. Right arm moves up in front of body (through high 1st) to high overhead (5th).
15. Cross left over right foot and 270 degree (¾) turn right on halftoe ending in 3rd position on halftoe (releve) with right foot in front. Left arm moves upward to high overhead (5th) on turn.
16. Lower heels to floor in 3rd position and lower arms through sideward to low circle in front of body.

Repeat all 16 measures in opposite direction if space permits (see Figure 6).

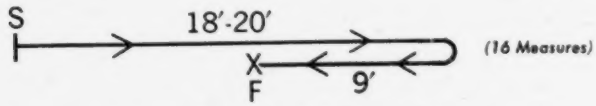


Figure 6 Individual Movement Sequence 4

Balance Beam

DOROTHY MARTIN

The balance beam has undergone a metamorphosis during the past two decades. No longer is it a low narrow rail on which girls walk backward and forward. Today the Olympic standard balance beam is 4 inches wide, 16 feet long, and 4 feet high, and the top women gymnasts are combining intricate dance steps and difficult acrobatic moves to form compositions which are the epitome of graceful, fluid movement. Among the values derived from performing on the balance beam are:

1. The strengthening of all the muscles of the body;
2. Increased flexibility;
3. An improved sense of balance and coordination;
4. The development of poise and confidence in ordinary body movements; and
5. The development of initiative and creativity.

A composition for the balance beam consists of a mount; dance steps, such as jumps, leaps, and turns; movements with the body contacting the beam; tumbling; and a dismount. The exercise should be carefully constructed so that arm and body movements are well correlated and each move flows into the next. The tempo of the routine should be lively and should not be interrupted by hesitations or pauses.

The duration of a beam exercise for competition should be one minute 20 seconds, to one minute 45 seconds. However, routines given during regular physical education classes should be short, so that everyone will have ample opportunity for practice on the beam. Exercises, even for beginners, should contain all the elements of a good beam composition stated above. They should be geared to the ability of the group and should be difficult enough to stimulate interest but not too difficult to be accomplished by a majority of the girls.

In order to acquire the self-assurance and degree of skill necessary to keep the routine moving at a steady pace, hours of practice are required. To accomplish this, the composition or parts of it should be practiced on a line drawn on the floor until the gymnast is able to perform smoothly. The next step is practice on the low or intermediate beam. When confidence has been gained at this height, the student is ready to perform on the regulation beam. This same procedure can be used advantageously in teaching a class or large group a compulsory exercise.

Probably the most difficult qualities to attain are a steady flowing tempo, correlation of arm and body movements, and height in jumps and leaps; but these three characteristics of superior beam work should be the aim of beginning and advanced students alike. The teacher may count, clap, or beat a drum in order to encourage steady rhythm when the students are learning dance steps on the beam. A record may be used for the same purpose as background music during practice sessions. Pupils should be taught to look at the far end of the beam. By focusing the eyes on this point, better balance will be obtained in both moving and stationary skills. The girl who works without fear and executes her leaps and jumps with abandon should get the highest class grade or competitive mark.

In addition to the usual safety precautions (placing mats under and at ends of the beam and the use of student spotters), students can be taught to jump or push away from the beam when losing balance in order to avoid hitting the beam. No one should be allowed to practice handstands, cartwheels, or walkovers on the beam unless she has mastered on the floor the techniques of turning-off when overbalanced and the use of finger-hand pressure to maintain balance.

Terminology

Certain terms are used in gymnastics to denote the relationship of the performer's body to the apparatus. These terms are dependent upon which surface of the body is turned toward the apparatus and the position of the breadth axis of the individual in relation to the length axis of the apparatus used. In determining the side of the body toward the apparatus, the following terms are used:

frontways—front of body toward the apparatus
rearways—rear of body toward the apparatus
sideways—side of body toward the apparatus

If the breadth axis of the individual is at right angles to the length axis of the apparatus, the performer is in a cross position—stand or support. When the breadth axis parallels the length axis of the apparatus, the performer is in a side position. (See Figure 1)

a. Side stand frontways
b. Cross stand right sideways
c. Cross stand frontways
d. Side stand rearways
e. Cross stand rearways
f. Side stand on beam
g. Cross stand on beam
h. Cross handstand

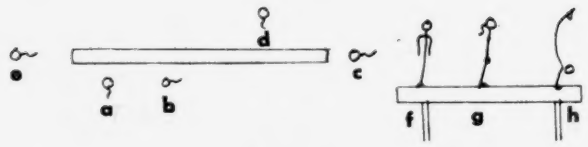


Figure 1.

Crown position of hands. Same as fifth position in ballet: hands are held loosely, thumbs up, palms facing body, about 2 inches apart, and arms are slightly rounded at elbows.

Arabesque. Position of body with weight on one foot, leg straight, other leg raised back upward from the hip as high as possible. Legs should turn out at the hips, and pinch should be felt between lower rib and hip joint.

Front lying position. Both hands are on beam in upper grip, front of body toward beam; weight supported on hands and toes; body arched.

Scale. Also known as balance stand or arabesque. Same leg position as in arabesque but chest is lowered until the hip joint is as high as the shoulder.

Jete or leap. Jump from one foot swinging other leg forward and up, if possible waist high, before landing. Back leg trails to form wide stride position.

Balance Beam Unit

I. Mounts

A. From a front support

Figure 2.

1. From a side stand frontways grasp beam with upper grip and jump to a straight arm support. Body should be slightly arched, thighs resting on beam; swing left leg over beam and make ¼ turn left to a cross straddle sitting position; place hands on beam behind body. (See Figure 2)

2. Front support to knee scale–Begin from a straight arm support as in #1, swing left leg up, bend knee and place left foot on beam outside on left hand; place left hand next to right hand with thumbs on top and make a ¼ turn right placing left knee on beam; raise right leg back upward to scale position. (See Figure 3)

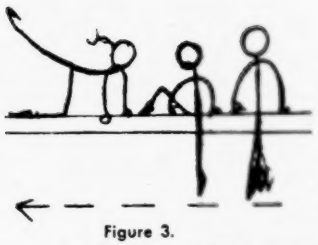


Figure 3.

Figure 4.

3. Jump to a stride support sideways. Run and jump, raising hips high, bend right leg and thrust it forward over beam between hands to a stride support sideways. (See Figure 4)

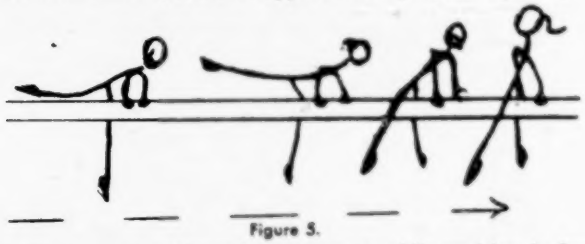


Figure 5.

4. Turnmount backward to a cross straddle position in front of hands–From a sidestand frontways, place hands on beam with thumbs up; jump and swing left leg backward over beam and at the same time execute ¼ turn left. Remove hands from beam and replace behind body. (See Figure 5)

B. Straddle mount progression[1]–When using the high beam, a take-off board (beat board or Reuther board) should be used. Intermediate routine: Place take-off board at right third of beam; Advanced routine: Place take-off board at right third of beam.

1. From a cross stand sideward about 6 feet from the beam, with a diagonal run, place right hand on beam and jump placing right foot in front of right hand, swing left leg forward and rest foot on beam (leg will be slightly bent), right arm is brought forward, left arm backward. (See Figure 6)

[1]In spotting all the mounts in the straddle progression, the assistant should stand on the far side of the beam and grasp the shoulders of the gymnast as the jump is made. By doing this, she may either help the girl get up on the beam or prevent her from falling forward.

Figure 6.

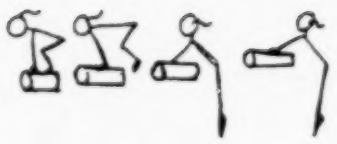


Figure 7.

2. Squat between hands–From a side stand frontways, run and jump grasping beam with hands shoulder-width apart; raise hips, bend legs, and place feet on beam between hands. Gymnast must lean forward so that shoulders are forward of beam. (See Figure 7)
3. Squat outside of hands–same as above but place feet outside of hands (See Figure 8)

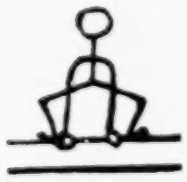


Figure 8.

Figure 9.

4. Straddle mount–From a side stand frontways, run and jump, raise hips high, keep legs straight and place feet on beam outside of hands in a wide straddle. (See Figure 9)

II. Moves on beam
A. In standing position

1. Chasse-arabesque
a. Walk forward on beam with extended leg, placing the toe on beam first. Arms are held sideward.
b. Step forward on the left foot and bring right toe to heel of left foot, step left forward once again and raise right leg back and up. Arms are held sideward.

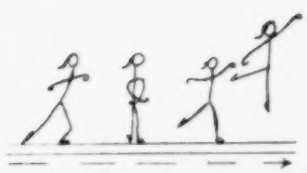


Figure 10.

c. Step forward left foot and bring right toe to heel, arms swing side downward and cross softly (body twists from waist); step left forward once again and swing right leg back upward (if possible hip high) while left arm swings upward to oblique forward position and right arm swings down backward to oblique backward position. Repeat beginning with right foot. (See Figure 10)

d. Same as (c) but jump off beam in arabesque.

2. Chasse right, hop on right

a. Step right forward, bring left foot to heel—arms sideward shoulder height. Step left forward, bring right foot to heel.

b. Step right forward, bring left foot to heel, rise on toes as left leg is extended backward. Repeat, beginning left.

c. Add arm movement to (b). Arms begin in forward crown position shoulder height; as left foot and right heel swing back upward, left arm swings forward, downward, and side upward to shoulder height. With forward step of left leg, left arm swings side downward and foreupward to crown position. Reverse arm movements when stepping forward on left leg. (See Figure 11)

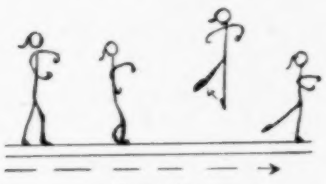


Figure 11.

Figure 12.

d. To all of above, add a jump off of beam when back leg is raised back upward.

3. Leap progression

a. With the arms sideward shoulder high—step left forward, bring right foot to left and raise left leg foreupward, step left forward, right forward, and bring left foot to heel of right foot and raise right leg foreupward.

b. Add arm movements. Begin with arms overhead in 5th position, with step forward bring arms side downward; as forward leg is swung foreupward, arms swing foreupward to starting position.

c. Same as above, but as right foot cuts behind left foot, bend right knee and spring from right foot while swinging left leg forward into a leap, arms swing foreupward to overhead 5th position. Land on left foot, slightly bending knee and bring arms side downward. (See Figure 12)

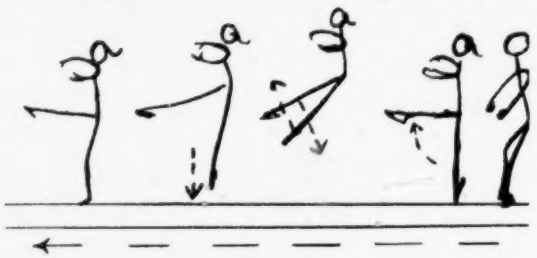


Figure 13.

d. Hitchkick—With a three step run, leap from the left foot, swing right leg straight forward; swing left leg forward and pass right leg as right foot returns to beam. Arms swing foreupward shoulder high on kick. (See Figure 13)

4. Standing scale

Figure 14.

a. Step forward on right foot, left leg backupward while lowering chest into scale position. Raise arms side-upward to shoulder height. (See Figure 14)

b. If arms were overhead at start, right arm remains in position while left arm swings foredownward and side upward to shoulder height.

c. If arms were overhead at start, both arms can be lowered foredownward to a parallel position.

5. From standing position to sitting position

a. Squat to a sitting position.

b. One leg squat to sitting position—Raise one leg forward hip high, bend other leg and lower to one leg squat stand, arms should be held sideward shoulder height, reach back

and place hands on beam behind body while coming to a sitting position. (See Figure 15)

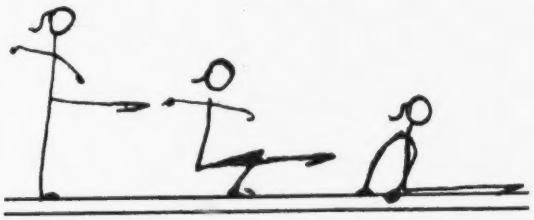


Figure 15.

B. Turns–In executing turns, the gymnast should contract the gluteal muscles and keep her center of gravity in line with the supporting leg.

1. Half turns
   a. Turn on toes–Bring left foot to rear of right foot, make ½ turn left swinging arms forward to 5th position overhead.
   b. Step forward on right foot and make ½ turn left, arms are held in 5th position in front of body at shoulder height.
   c. Turn with leg swing–arms in crown position overhead. (1) Step forward on right foot, bring arms side downward, swing left leg forward and make ½ turn to right while swinging arms foreupward. Place left foot behind right foot on beam. (2) Step forward on right foot, bring arms side downward, swing left leg forward and make ½ turn to right, immediately bring right foot forward and place on beam in front of left foot. (3) Step backward on right foot and immediately make a ½ turn right. Raise straight left leg back and up. Arms swing side downward and foreupward. (4) From a stand with the left foot behind the right foot, swing the left leg back upward and make ½ turn left. (Raised leg will now be held high in front.)
   d. Squat turn–bring right foot behind left and lower to a squat stand, arms in crown position shoulder height, as the body turns to the left, arms swing sideward remaining at shoulder level, slowly rise to a stand as the body turns.
2. Full turns
   a. From a cross stand on beam, step right forward with a ½ turn left to a side stand; swing left leg backward while making ½ turn left and place left foot on beam 10 inches to the side of the right foot. Turn body additional ¼ turn left to original cross stand.

b. Stand with left foot 10 inches in front of right foot, weight on left foot, arms left sideward in parallel position; swing arms to right keeping them shoulder height and make ½ turn right putting the weight on right foot; continue arm swing and swing left leg forward. Complete turn and place left foot on beam behind right foot.

c. Same as (b), but at end of turn instead of placing left foot on beam behind right foot, bend at knee and swing through to a bent knee-raised leg position.

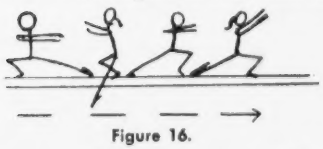


Figure 16.

d. Lunge turn (¾ turn)– From a sidestand on beam, lunge right sideward and swing arms in parallel position to the left, shoulder high; while arms are swinging at right, swing left leg forward and make ½ turn right, place left foot on beam; turn body additional ¼ turn to cross lunge position while swinging both arms obliquely upward. (See Figure 16)

C. Body on beam[2]

1. Back roll progression

a. Pretzel bend–From a lying position on beam, raise legs straight up and touch beam behind head. Return to lying position. Hands should be on sides of beam, elbows squeezed against ears.

b. Back shoulder roll to knees–From a lying position, place hands on beam behind head; raise legs upward and drop head to side of beam; grasp bottom of beam with hands, bend both legs and place knees on beam behind head; shift hands on top of beam, push up to a kneeling position. (See Figure 17)

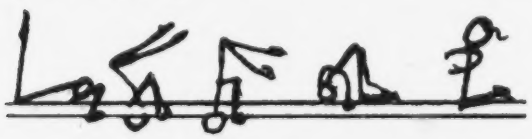


Figure 17.

[2]In doing forward or backward rolls, the gymnast should remember to squeeze her ears with her elbows for better body control. The gymnast can be kept on the beam if one shoulder is held by the spotter in order to guide her body on the beam.

c. Back shoulder roll to a knee scale–Same as (b), but shoot left leg back and upward while bringing hands to top of beam and push up to a knee scale on right knee.

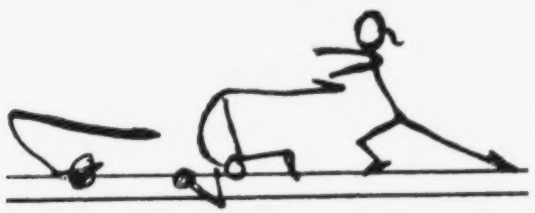


Figure 18.

d. Back roll–From a lying position, place hands on top of beam at neck, bring legs up and shoot left leg upward, at the same time push on hands to bring head through, bend right leg and place foot on beam behind hands. (See Figure 18)

e. Back roll as in (d), but instead of placing left foot behind right, swing left leg straight forward, bend knee and place foot on beam in front of right foot, rise to a stand.

2. Forward roll progression

a. From a lunge with right leg forward, bend and reach forward placing hands on either side of top of beam; roll head under and place neck on beam between hands and foot; shift hands to bottom of beam and bring legs together as body rolls to a lying position on beam.

b. Forward roll to a balance sitting position. Finish by raising upper trunk to balance sitting position with hands on beam behind body. (See Figure 19)

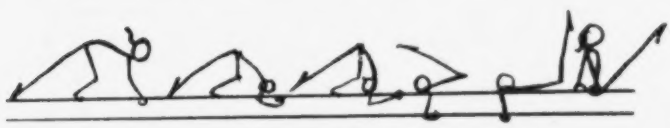


Figure 19.

c. Forward roll to squat stand. (See Figure 20)

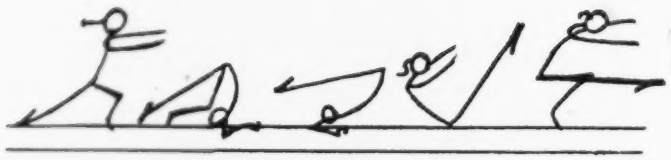


Figure 20.

III. Dismounts

A. Arch jump–Run and jump off end of beam arching body. (See Figure 21)

B. Straddle dismount

1. From a side stand on beam, with a preliminary bending of the knees, jump up and swing arms side upward to a high oblique position, open legs into a wide straddle. Land with knees slightly bent and feet together. (See Figure 22)

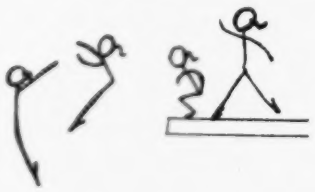


Figure 21.

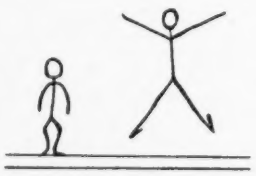


Figure 22.

2. Straddle jump touching toes. Same as above but bend at waist in order to touch toes. (See Figure 23)

Figure 23.

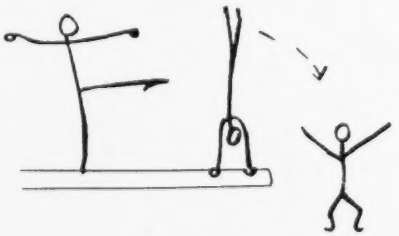


Figure 24.

C. Cartwheel–From a side stand near end of beam, kick into side handstand and wheel out to a side stand at end of beam (left or right sideways). (See Figure 24) The spotter should stand at side of beam behind the gymnast and should place one hand on the shoulder nearest the end of the beam in order to provide extra support if needed or extra push for the wheel-off.

Routines for Class Use

Beginning–beam 30 inches

Bring L foot to heel of R foot while raising body to standing position. Make ½ turn L while swinging arms side downward and foreupward to overhead crown position. (II-B-1-a)

Swing arms side downward to shoulder height, and step forward on R, bring L foot to heel, and rise on toes as L leg is extended back. (II-A-2-b)

Repeat beginning L.

Place R foot immediately in front of L and lower to a squat stand; reach back and grasp beam in upper grip while coming to a sitting position on beam–extend legs straight forward. (II-A-5-a)

Pretzel bend (II-C-1-a) and return to lying position.

From a cross stand R sideways at R end of beam about 8 ft. in front of beam:

With a diagonal run, place R hand on beam and jump grasping beam with R hand, place R foot in front of R hand and swing L leg forward and rest foot on beam, bring R arm forward and L arm backward. (I-B-1)

Rise to a stand while bringing arms down to sides and side upward to shoulder height.

Step forward on R foot and bring R toe to heel of L foot, step L forward and raise R leg back and up. Repeat beginning L.

Step forward on R foot and lower into a standing scale. (II-A-4-a)

Place hands in upper grip on beam behind hips, raise upper trunk to sitting position and bend knees to chest. Place R foot on beam close to body and reach forward with L leg while pushing off of hands to rise to a stand.

Run to the end of the beam and arch jump dismount to a cross stand rearways at end of beam. (III-A)

Intermediate–beam 30 inches

From a side stand frontways at R third of beam and 8 ft. in front of beam:

Run and jump to squat stand between hands. (I-B-2)

With ¼ turn L rise to a cross stand. At the same time raise arms side upward to shoulder height.

Chasse-arabesque rising on toes. (II-A-1-c) Perform first R then L.

Step forward on R foot and swing arms foreupward to crown position overhead. Lower into a scale while swinging L arm foredownward and side upward to shoulder height. Arms form 90° angle. (II-A-4-b)

Raise upper trunk and step forward on L foot, swing R leg forward and arms foreupward while making a ½ turn L. Place R foot on beam behind L foot. (II-B-1-c[1])

Step forward on R foot and lower arms foredownward to shoulder height, bring L foot to heel, and jump as L leg is extended backwards. Add arm movements. (II-A-2-d)

Repeat beginning L.

Step forward on R foot and swing R arm side downward and foreupward to shoulder height, raise L leg hip high and squat to a sitting position. (II-A-5-b)

Back shoulder roll to knee scale (II-C-1-c). L leg is raised.

Swing L leg down and forward placing foot on beam in front of R knee. Rise to a stand.

Run to the end of the beam and straddle jump dismount to a cross stand rearways. (III-B)

Advanced–high beam

From a side stand frontways at R third of beam and 8 ft. in front of beam:

Run and jump to a straddle stand. (I-B-4) Bring arms side upward to shoulder height to show L position.

Bend L leg and swing R arm forward shoulder height while making a ¼ turn L, raise arms foreupward to overhead crown position and at the same time straighten L leg and bring R foot to heel of L foot.

Chasse-arabesque R with hop. Repeat L. (II-A-1-d)

Step forward on R, lower into scale lowering arms to parallel position. (II-A-4-c)

Place L foot on beam behind R and lower into a squat stand; arms raise to shoulder height. (Movements done simultaneously) Squat turn L (½ turn) while rising to a stand. (II-B-d) Arms open side outward.

Three step run and hitch kick. (Step R, L, R and swing L leg forward, R leg forward passing L, land on L foot) (II-A-3-d)

Place R foot on beam about 10 inches in front of L. Swing L leg forward to hip height and one leg squat to sitting position. (II-A-5-b)
From sitting position, back roll to lunge on R foot. (II-C-1-d)

Advanced—high beam

Straighten R leg—run to end of beam and straddle dismount touching hands to toes to a cross stand rearways at end of beam. (III-B-2)

Introduction to Side Horse Vaulting

NORMA B. ZABKA
Hunter College
New York City

Vaulting provides excellent training in strength, control, accuracy, and coordination. This area of gymnastics primarily improves leg strength. Although the side horse without pommels is used in international and national competitions, vaulting experiences in schools must not be limited to one kind of vaulting apparatus. This article, however, is concerned specifically with side horse vaulting with the Reuther board. The six phases remain constant for all vaulting apparatus. They are: (a) the run, (b) the take-off, (c) the pre-flight, (d) the touch and push-off of hands, and (e) the landing.

Vaulting Apparatus

1. horse with or without pommels
2. buck
3. vaulting box
4. vaulting table
5. Swedish boom (in little use today)

Take-Off Boards

1. beat board
2. springboard
3. Reuther board

The Reuther board was introduced in the 1956 Melbourne Olympic Games. This board changed the entire technique of vaulting. Many teachers and gymnasts do not know how to use this board effectively. As a result, poor habits develop that are often hard to break and make advancement difficult. Basic skills necessary for unlimited progression on vaulting apparatus include proper execution of all phases of the vault. First practice the run, take-off, and landing on the floor without any apparatus, then practice with a take-off board in the same manner before vaulting over apparatus. A brief explanation of the various phases of the vault with the Reuther board will give a basic understanding of the requirements, possibilities, and proper methods of vaulting.

Run

The run is very important to the success of a vault. Gymnasts too often underestimate the value of the run and avoid practicing correct running. In order to progress to more difficult vaults and to vault correctly, more time must be devoted to the run. There is only one correct way to run whether simply limbering up or running for vaulting purposes. The difference is only in the intensity of the run, that is, the extent of movement and speed of execution. From the beginning, emphasis should be on a natural, light, springy, and controlled run. When training girls to run, correct leg-work and arm-work, as well as the correct position of the head and body should be stressed. During the run, the body is straight and the weight is slightly forward, with care taken not to bend forward at the hip or lean backwards. The arms are bent at the elbows at about a 90^{o} angle and the drive is from the shoulder joints. Arms and legs work in opposition. The extent of arm work depends on the intensity of the run. The hands move forward to approximately the height of the nose or shoulders. In the back as a rule, the lightly closed fist reaches to the height of the hips. During the run, the weight is taken on the balls of the feet on the outer border. This gives a soft and light run.

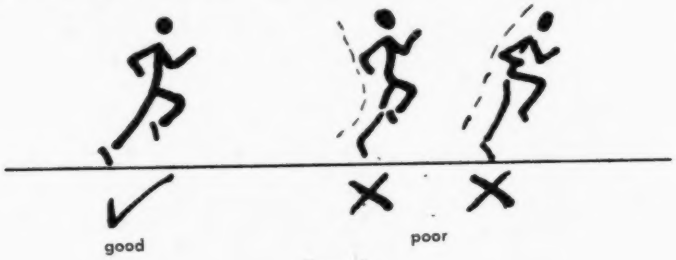


Figure 1.

Major Errors

1. Feet do not point directly ahead (not parallel).
2. Knees turn out (not in direction of run).
3. Sitting on hips (not stretched).
4. Running on heels.
5. Poor head position (bent forward or backward).
6. Poor arm work (opening angle on backswing and/or crossing in front of body).
7. Body too tense.

The length of run and speed depends on the kind of vault. Good vaulters use a run of approximately 25-50 feet. The run picks up speed rapidly, but smoothly, so that about three or four steps before the board, the gymnast is running at maximum speed. The starting point should be measured carefully so that the running steps need not be lengthened or shortened to hit the board at the most advantageous spot. The rhythm of the run must not change. The gymnast can try runs of different lengths to see which suits her best. Usually the advanced vaulters like to use the same number of paces for all vaults. The paces are measured from the take-off point on the board. If the running approach is precisely measured, more attention can be devoted to the take-off.

Take-Off

Although there is much to say about the take-off, only major points will be made. The gymnast, after a smooth approaching run, takes off without loss of speed. The hurdle step should be low, but here again, the angle depends on the speed and vault. A correct take-off should be quiet, light, and of short duration. On the board, the toes land first and then the balls of the feet, with the body straight, slightly inclined forward, and the heels never touching the board. The knees do not bend much, since to do so would cause a long, heavy take-off. The spring of the Reuther board is quick and slight, not long and slow as on a diving board. In practicing the take-off, one should try to reach as high as possible with the crown of the head. The arms swing up. The take-off is obliquely up and forward.

take-off
Figure 2.

Pre-Flight

After the take-off and before touching the horse, the body is in mid-air. The value and beauty of this phase of the vault depends on whether the gymnast flies across or "crawls" over. If the board is too close, the take-off and touch are simultaneous. From the beginning, the board should be moved back from the horse little by little. The different phases of a vault should be explained so that one can distinguish between take-off, flight, and touch. In order to get a

good pre-flight, place a high jump crossbar in front of the near side of the horse and let the students try to get up and over it. The body should be straight during pre-flight and the legs should swing back in order to get the hips as high as possible.

Touch and Push-Off of Hands

The hands touch when the shoulders are almost directly above. The touch on the apparatus must be as short as possible. The push-off is directed straight up. The run is forward, and the take-off is up. If the touch is too long, the after-flight will be very low and directed straight toward the ground, resulting in an imperfect vault.

Figure 3.

After-Flight

The shorter and more powerful the push-off with the hands, the higher and more perfect is the after-flight of the body. Practice the after-flight by trying to reach some kind of object suspended above on the far side of the horse. The higher the after-flight, the more time one has to prepare for a perfect landing.

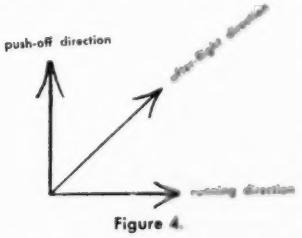


Figure 4.

Landing

The landing is the final phase of the vault. It should be light and with no loss of balance, ending in a firm half-squat with support in the ankles, knees, and hips. The arms are usually in a sidearm position to aid balance. The bend at the hips should be only slightly forward. Stretching up from the spine helps give lightness to the landing.

Safety

1. Since a long run is desirable, use rubber-soled slippers, resin, go barefooted (if permitted in the gymnasium), or use a long rubber running mat.
2. Be sure that the runway is unobstructed.
3. Have sufficient mats for landings with no space between or overlaps.
4. Use two spotters for beginners or when learning new vaults—one on the near side and one on the far side.
5. When teaching vaults, teach spotting at the same time.
6. Individual vaults often call for some variations in spotting techniques. Since the squat vault is usually the first vault presented, spotting for this vault only is suggested. Stand on the far left side (if right-handed) and face obliquely to the center of the apparatus. Use the right hand to grasp the performer's upper arm. The left hand is then free to prevent the gymnast from falling backward.

Specialized Skills

The Back Handspring

ERIC HUGHES
The University of Washington
Seattle, Washington

The back handspring is the stunt which separates the advanced from the intermediate tumbler. Many teachers go as far as the back handspring in the tumbling stunt progression and then stop because they do not feel qualified to teach it. This is unfair to the more skilled students who should have an opportunity to learn advanced skills in gymnastics as well as in other sports. All teachers can teach advanced gymnastics just as they can teach students to make bull's eyes in archery even though their own archery skill is limited. Teachers do not have to be performers themselves but must take the time to learn the teaching and spotting techniques.

Mechanics of the Back Handspring

The back handspring can be divided into the following steps: starting position, sitting off-balance, take-off, landing, and snap-down.

Figure 1.

Figure 2.

1. The starting position is an erect standing position with the feet about a foot apart and the arms raised forward to shoulder height with palms down. The head should be erect with the eyes looking straight ahead in this position.

2. From the starting position the arms swing downward and backward and the knees and hips bend. At this point the performer is off-balance and would fall it she tried to stop. As she sits off-balance, the body and lower legs should remain almost vertical, the head should remain erect with the gaze directly forward, and the buttocks should remain higher than the knees.

Mistakes: (a) leaning too far forward from the waist and looking down; (b) carrying the knees forward in an effort to remain on balance; (c) sitting too low so that the angle of the knee bend is less than a right angle.

Figure 2a. Incorrect positions.

Sitting back off-balance can be practiced by sitting in a chair or by sitting on a partner's knee. A partner can also stand directly behind the performer and support her weight by placing the hands on her back as she sits off-balance.

3. From the sitting position the arms are swung vigorously forward, upward, and backward. As they reach the vertical, the body leans backward and the head is also dropped backward. About the same time the legs straighten quickly and thrust away from the mat and the chest and stomach lift upward so that the body is in an arched position. The feet leave the ground just slightly before the hands make contact with the mat.

Figure 3.

Mistakes: (a) dropping the head backward too soon; (b) bending the arms and reaching with them rather than swinging them in pendulum fashion with the elbows perfectly straight; (c) not thrusting vigorously off the mat with the legs; (d) turning the head to the side to look over one shoulder. This is probably the most difficult mistake to correct. A technique that helps is to place another student directly in front of the performer so that the performer can concentrate on looking ahead at this student until the take-off.

4. The landing is on the hands about shoulder width apart with the arms straight and the fingers pointing directly forward. The shoulders should be over or slightly behind the hands. The body should still be arched when the hands contact the mat, and the legs should trail or hang behind the body.

Mistakes: (a) not getting the hands "cut under" the shoulders as shown by the dotted lines in the illustration. This is caused by stopping the arm swing too soon or simply because of lack of shoulder flexibility; (b) to start flexing at the waist too soon and/or bending the knees in an attempt to speed up the return of the feet to the mat. The abdominal muscles should remain relaxed during the take-off and the landing. A skilled spotter can assist under the back with one hand and delay the action of the legs with the other hand to assure than the snapdown does not start too early.

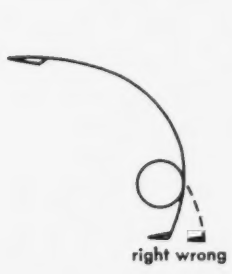


Figure 4. Arm position.

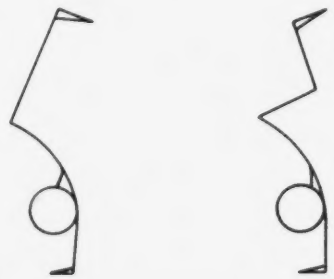


Figure 5. Incorrect body positions.

5. After a fraction of a second delay in this arched position with the hands on the mat, the legs are quickly flexed and the feet snapped down to the mat. Good strong abdominal muscles are an asset. There should also be a thrust from the fingers and shoulders to lift the upper body from the mat. It is a good technique to practice snapping the feet down so that they cut under or land in front of the center of gravity and place the performer off-balance backwards at the landing. This permits the immediate execution of another back handspring. If a back somersault is to be executed after the back handspring, the feet should be snapped down directly under or even slightly behind the center of gravity.

Lead-up Skills

1. Lie on the back on the mat and push up to a back bend position to develop back and shoulder flexibility. Shoulder flexibility is particularly important.

2. Practice slow back bends from a standing position to the hands and over to the feet to get the feel of the back handspring movement. Two spotters can support during the back bend and lift during the return to the feet.

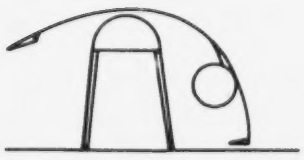


Figure 6.

Figure 7.

3. Arch backward over a horse placed at an appropriate height. As the hands approach the mat, slide off the horse so that the weight is supported on the hands and snap down to the feet.

4. Practice slow arch over back handsprings with the aid of a partner. The performer stands erect with the arms above the head. The partner stands with her back to the performer and reaches over her shoulders and grasps the performer's upper arms close to the elbows. The partner bends forward and places the performer's hands on the mat and then raises her hips slightly to help the performer to her feet.

5. Practice the take-off from the off-balance sitting position by springing upward and backward in the air.

6. Practice the snapdown by kicking to a handstand and then rapidly flexing the legs and thrusting from the shoulders and fingers to return to the feet.

Spotting Methods

There are many methods that can be used to spot the back handspring. In selecting the method to use in a class the teacher must consider available equipment, ability of the students, weight of the students, strength of the spotters, and skill of the spotters. Whatever

method is used, the teacher should require that every student learn the spotting techniques and serve as a spotter part of the time. Teachers should not attempt to do all the spotting themselves. Spotters should gain experience spotting simple stunts and progress to the back handspring just as a performer in gymnastics progresses from simple to complex stunts. If spotting practice such as the following has been a part of every class period, almost every girl will be capable of spotting a back handspring by the time it is presented to the class.

1. A belt suspended from the ceiling by ropes that run through pulleys. One spotter, even if she is quite small, can spot this way.

2. A hand belt held by two spotters. Each spotter should hold her rope with one hand very close to the waist of one performer. The ropes should be held behind the performer so as not to interfere with her arm swing.

3. A towel (or rope) held by two spotters. The towel is rolled and held across the small of the performer's back in the starting position. The spotters can support the performer under her back by pulling and lifting on the towel as the back handspring is attempted. The performer can be controlled better if two towels are used. One is placed in front and one behind the performer and then twisted and grasped together by the spotters.

4. Hand spotting.

   a. Two spotters clasp one hand behind the back of the performer in the starting position. As the back handspring is attempted, they lift under the small of her back. Each spotter can use her free hand to delay the leg motion if necessary and to assist the performer in flexing her legs after the landing on the hands.

   b. Two spotters kneel, one on each side and slightly behind the performer, and lift under her lower back with one or both hands as the back handspring is attempted. Considerable lifting power is possible if the spotters kneel on one knee and place the other foot forward so that the knee is underneath the performer as she executes the back handspring. This method of spotting should be practiced first with the performer doing a slow back bend. Spotters should gain experience with light girls before attempting to spot heavy individuals.

A Trilogy of Gymnastic Patterns

MILDRED PRCHAL
Chicago, Illinois

JUMPS–HOPS–LEAPS

High elevation and lightness *(ballon)* are synonymous in the execution of floor exercises. Not many individuals are endowed with natural elevation but it can be developed through a well balanced training program. It is futile to constantly stress height when teaching jumps or leaps if the feet, knees, and thighs have not been prepared, or if the importance of back muscle control and proper posture have not been instilled in the gymnast. Strength and elasticity in the legs and feet along with control of the spinal muscles produce brilliant elevation and add to the beauty of the exercise.

Jumps, hops, and leaps are some of the most demanding elements in the floor exercise. Light, well executed jumps and hops are included in the first part of a class period for quick warming up. The teaching and training of these, however, is included in the main part of the program. Avoid fatigue by alternating group and individual execution. This will also give the instructor the opportunity to correct individual faults.

The first and most important basic exercise for teaching is one well known to ballet students and dancers–the *demi plie* which is a bending of the knees with soles of feet held firmly on the floor. By keeping the soles firmly on the floor while bending the knees, the Achilles tendon is stretched, and by adding the *releve* (rising to halfpoint) and other exercises to the class period program, a strong set of muscles will be developed in the arch and the ball of the foot. The *demi plie* is used as a preparation for the spring and a cushion upon landing. The correct and regular practice of the *demi plie* and *releve* insures lightness, softness, and ease.

The following four phases are applicable to all jumps, hops, and leaps:

1. Preparation for spring or rebound is a *demi plie* or halfsquat. This bending of the knee or knees is done very quickly. The sole of the foot must be firmly upon the floor. Inhale.
2. The thrust from the floor is very fast with an extension of the legs in all joints, finishing with a maximum push from the toes. The hop or jump is directly vertical (mostly in jumps from both feet or hops on one foot) or diagonally upward (in leaps). In leaps the body travels forward, sideward, or backward.

3. After the thrust from floor, the body and limbs immediately assume the position of the prescribed jump, hop, or leap. At the peak of flight the movement is slower and momentarily static. Hold breath.
4. The landing is done by rolling from toes to heel with simultaneous flexing of hip and bending of knee joints. Adequate strength of the lower leg is necessary the instant after landing, to straighten and extend legs and body without loss of control. Without preparatory and strengthening exercises landing is heavy and continuation to next movement is retarded. Exhale during landing (See Figure 1).

Inhaling before preparation, holding breath in flight, and exhaling when landing applies to all jumps or leaps requiring flight and height.

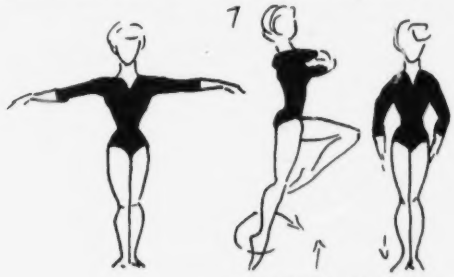
The following are a few hops, jumps, and leaps included in floor exercise combinations.

Spring from Both Feet—Land on Both Feet

1. Execute vertical jump without arch. Land with feet crossed or strideleg. Cross legs or assume strideleg position in flight, landing on both. Do the same with other leg movements, i.e., bend one leg or both, swing one leg front or back while in flight. These jumps are executed with trunk straight, bent forward or sideward. Shoulders must not be raised. Head is perfectly straight (see Figures 2, 3, and 4).

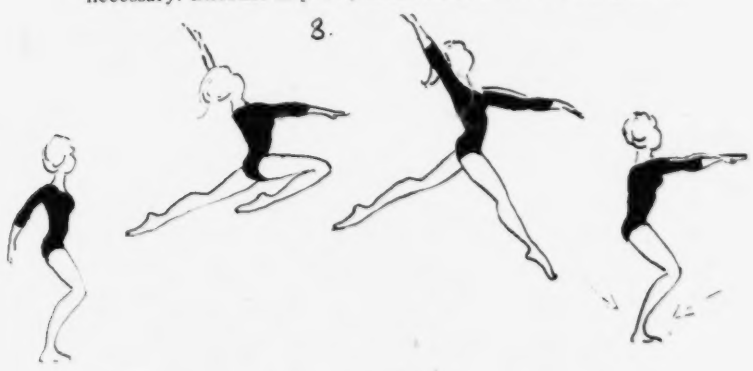
2. Execute arched jump from both feet. Do the same with sidebend or with one or both legs bent, front or back. During these jumps the pelvis is energetically pushed forward and the rest of the body is either in fundamental position or backbend (See Figures 5 and 6).

3. Jump from both feet with turns of 90, 180, 360 up to 450 degrees. Do the same with one leg bent front or back. Jumps with turns are executed without arch. If turns of greater degree are attempted, "spotting" is necessary (see Figure 7).



4. *Stag leap.* Spring from both feet vertically, one leg bent forward, the other extended to rear, the toes of the bent leg touching knee of rear leg. Quick stretch and closing of feet before landing is necessary. Execute in place, finish on both feet (see Figure 8).

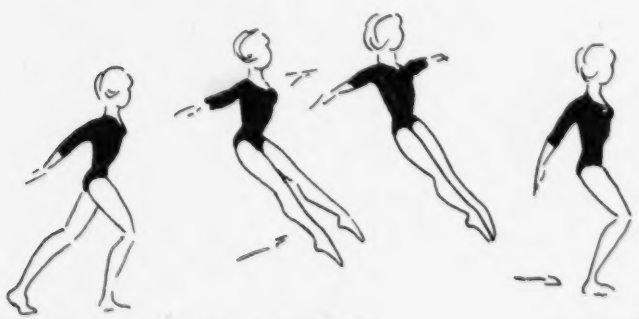
8.



Jump from One Leg—Land on Both Feet

1. Execute low spring forward from one leg while extending other leg front. Before landing close leg from which spring emanated to front leg and land with both. This jump is often used before other jumps requiring great height. Swinging the front leg too high retards the horizontal speed (see Figure 9).

9.



2. Execute jumps with other leg bent (see Jump 1). or swinging front, then back (or opposite).
3. Execute the same jump with swinging leg straight. Jumps 2 and 3 are low and small and landing is done on both feet. Where one leg is swinging froward or back, its closing is a little retarded.
4. Execute jumps 2 and 3 with turns. The rotation begins upon finish of takeoff and must be completed before landing. The free leg is held in prescribed position during rotation, then quickly closes before landing (see Figures 10 and 11).

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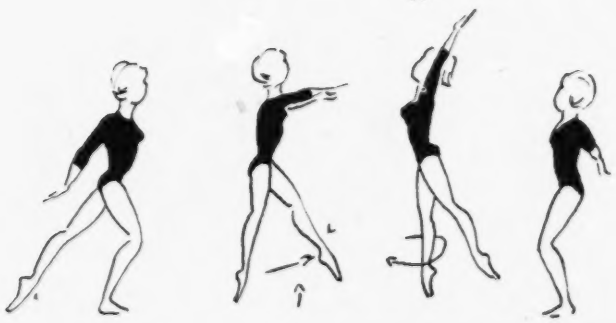
11.



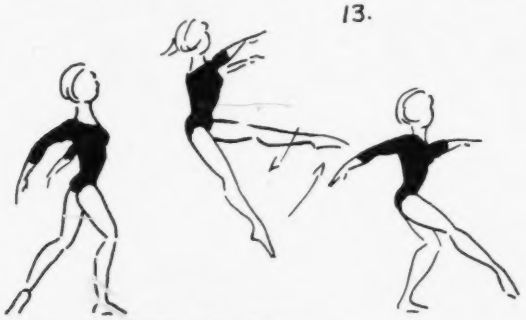
Leaps: Spring from One Leg—Land on the Other

1. *Pas de chat or "cat step."* This is a bent-leg scissor step done forward. Starting with a raising of one leg bent forward, the other leg quickly following, knees alternately raise to height of hips. Feet are arched and toes pointed. Trunk does not bend forward unless specified (see Figure 12). (Ballet *pas de chat* differs in that it is executed with knees well turned out and both feet close into 5th position.)

12.

2. *Ciseaux or "hitchkick."* This is a scissor jump and may be done forward, backward, or inward. The swing of the legs should be hip high, trunk straight. (To ease execution gymnasts lean back.) Trunk leans forward on back *ciseaux* and to side on inward *ciseaux* (see Figures 13 and 14).

13.



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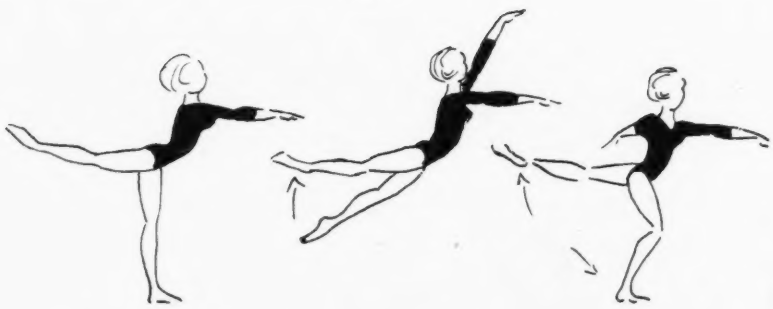
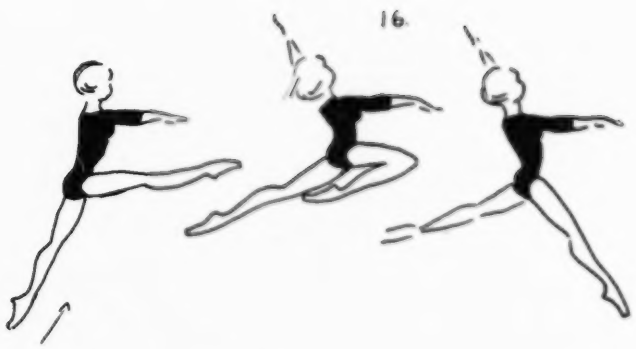


3. *Grand jete–split or extension leap.* Start with a *demi plie* on one leg, the other leg pointed on floor in rear ready to step forward for takeoff. Inhale deeply; hold breath during quick step forward and immediately thrust sharply from floor swinging free leg high front; quickly extend takeoff leg to rear. (Legs should be in complete split position.) Exhale while landing on front leg to slow *demi plie* (see Figure 15).

15.

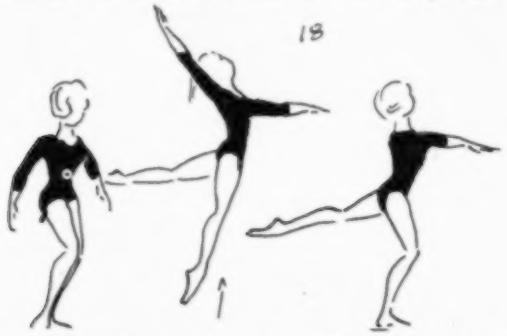
4. *Stag leap.* This is similar to Figure 8 except gymnast travels forward and lands on leaping leg (See Figure 16).



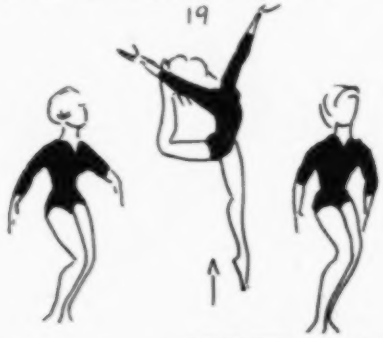
5. *Jete en tournant or tour jete.* After thrust or takeoff from floor swinging one leg forward, turn 180 degrees in direction of takeoff leg. Before landing, legs are changed so that first extended leg prepares to land while takeoff leg swings high in rear. The instant the rear swing is being executed, gymnast must control trunk in an upright position. The most common fault occurs at the beginning when leg is being extended forward; many gymnasts begin to turn before the leg is in the extended position. This fault leads to a misdirection and the turn is not rhythmical or aesthetic (see Figure 17).

Jump from Both Feet–Land on One Leg

1. Jump from both feet, extend one leg to rear, and land with extended leg, being careful that leg does not lower itself upon landing. Gymnast must hold body upright throughout, with strong control in lower back. Land in soft *demi plie* (See Figure 18).

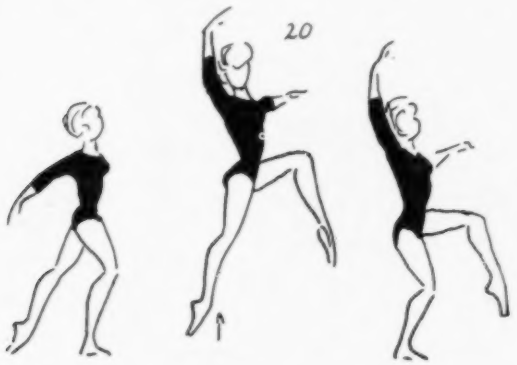


2. Execute jump 1 with bent leg in rear. The foot should be above head, shoulder back bend. Gymnasts with flexible backs are likely to bend in the lower back rather than raise the leg to the maximum; the knee of the raised leg should be on a level with the hip at least (see Figure 19).
3. Execute jumps described above with turns, landing on one leg; the other leg is bent front, side, or back.
4. Execute jump 3 with movement of extended legs, generally in arc. These jumps demand great coordination.

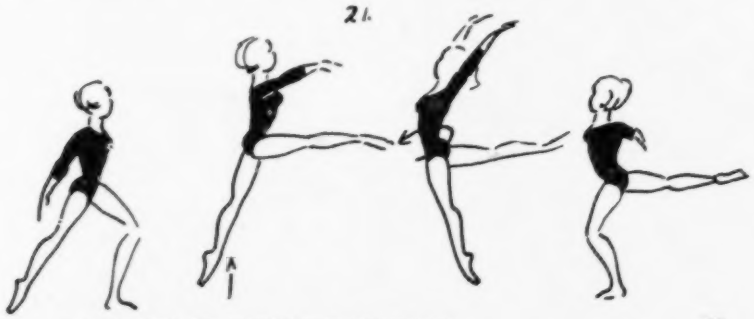


Hop from One Leg–Land on Same

1. Hop from one leg with other leg extended in rear or bent forward. Movement of free leg to prescribed position must finish with spring from floor. Landing is on same leg as take-off (See Figure 20).

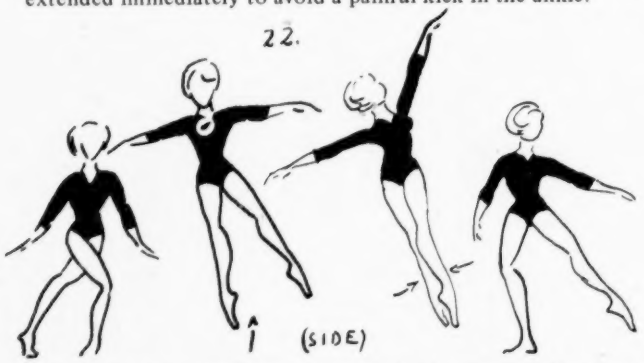


2. Hop with other leg extended front turning 180 degrees; this is executed the same as the first phase of *jete en tournant* and usually used as a preparation. The difference is only in the impulse of rotation (See Figure 21).



3. *Cabriole.* Beat step forward, sideward, or backwards. Trunk typically leans in opposite direction from side of beat. The movement of the swinging leg must never rise above a 45 degree angle. When it reaches this height, the thrusting leg quickly moves to beat shin, side, or calf of swinging leg depending upon direction of step (See Figure 22).

After spring or push from floor, both legs must be strongly extended immediately to avoid a painful kick in the ankle.

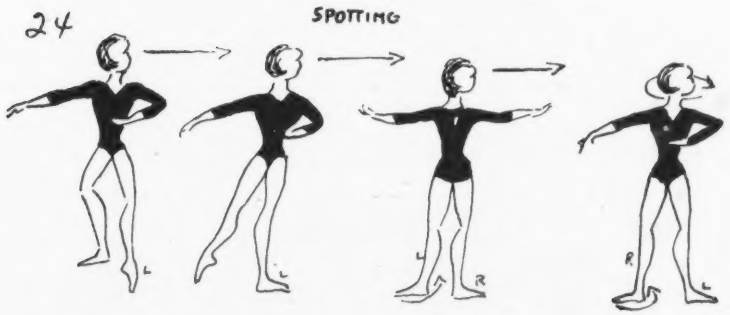


4. *The hop* with a pendulum swing of the free leg requires strength and speed in the leg joint. The extention forward of the swinging leg must not be higher than parallel. The emphasis is on the rear extension just before landing. This rear swing tends to prolong the flight. The rear swing is executed with such strength and speed that the take-off leg swings slightly forward. In such instances, in the second phase (swinging leg to rear) the legs are extended to a split (See Figure 23).

TURNS AND PIROUETTES

Turns and pirouettes are the most difficult of all dance elements because of the strength, coordination, orientation, control, and balance needed to execute them. Arm movements and positions must assist in execution of turns and pirouettes but should be decorative as well.

Spotting a focus for the eyes, (not to be confused with guarding) should be taught from the beginning. Stand with hip in direction of turns, supporting leg bent; head is turned to the side; eyes are focused upon an eye level object. Free foot steps to the side taking weight and gymnast turns 180 degrees in the direction of stepping foot, keeping the other foot behind working ankle. Eyes remain focused on the object thus retarding the turn of head until performer is unable to hold it in the same position. Step to side with opposite leg turning another 180 degrees to complete turn; head turns rapidly even before body completes turn; eyes return to original object of focus and the process continues (See Figure 24).



Turns require less balance and are not as dynamic as pirouettes. They are executed on *both* feet or alternating feet and may be done in place or traveling forward, sideward, or to rear, after a series of dance steps or before balance positions.

Turns may be done with closed feet (1st position) or crossed feet (5th position). In crossed feet turns, the preparation is the *demi plie*, rise to halfpoint and turn; but when doing spiral turns with body wave or side bends the rise on half point is gradual during the turn. The latter are particularly effective on the high beam (See Figures 25 and 26).

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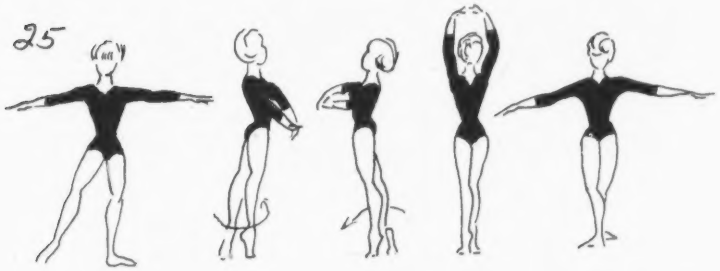

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Pirouettes are executed on one foot. Teaching or learning pirouettes requires great patience. Preparatory work for strengthening legs, flawless posture, and a keen sense of balance and coordination are vital. Pirouettes and turns may also be executed from kneeling or squat positions (Figures 27 and 28).

Pirouettes may be executed from the following: Count 1–*Demi plie* on both or one foot: Count 2–Rise to half point transferring weight to supporting leg, turn to prescribed degree. Count 3–Hold half point position momentarily and lower to *demi plie.*

Pirouettes may also be executed by quickly stepping forward, sideward, or to the rear on half point. Preparation: Count 1–Point one foot forward on floor, sideward, or to rear, with the weight of the body supported on other leg. Count 2–Execute quick *demi plie* of supporting leg and thrust from floor to half point of free leg to prescribed position and turn. Count 3–Hold half point position momentarily and lower to *demi plie.*

Note: In combinations, the turns may finish on the other leg depending upon the following element or step.

27

28

ARTISTIC GYMNASTICS

The distinguishing quality of artistic gymnastics apart from the material and method is the close relationship of its movement with music. Although the influence of music upon movement is very important in other areas of physical education, music is an intrinsic part of artistic gymnastics. This is the source of its technique and the element which renders it distinctly different from the rest of the gymnastic category. Artistic gymnastics is the emotional expression and interpretation of musical content; *the melody and dynamics of music determine the form of its movement.* It owes its dance quality to the movements of stylized folk dance, ballet, and interpretive dance, all of which lend themselves admirably to this beautiful event.

The mastery of harmony of movement with music instills in the gymnast a perception of music and its interpretation through physical movement in that the melody affects the emotions of the gymnast, animating and inspiring her interpretation. Her movements blend perfectly and she learns to react naturally and harmoniously to music.

The ideal method of selecting music for floor exercises is improvisation by an experienced pianist who is constantly in contact with the instructor during class hour. The character of accompaniment must, however, be in harmony with the character of the exercise.

The floor exercise can also be composed of music selected by the gymnast from the vast repertoire of popular classics. But here the relationship of music and movement is strictly limited because of the musical principles that must be adhered to. During competitions we often hear such compositions as the "Waltz" from *Eugene Onegin,* Tchaikovsky's *Nutcracker Suite,* "Waltz" from *Faust,* "Waltz" from *Ballet in Masquerade* by A. Katchaturian, excerpts from *Swan Lake* and other familiar pieces. The majority of this type are, however, difficult to use because of the changes that must be made in the original music; usually it is necessary to adapt its structure for the inclusion of a row of acrobatic elements, climax, and time element.

Teaching of music is divided into *tempo, measure, rhythm, dynamics,* and *character.* It is important from the beginning that the instructor encourage efforts toward composition of eight and later sixteen measures to music of the student's choice.

There are many good recordings available for teaching floor exercises and many recordings designed specifically for ballet are excellent for teaching floor exercises.

Developing A Layout in Vaulting

AVIS TIEBER KOLLINER

The dividing factor between good and mediocre vaulters is the layout. Once students have learned this skill, they not only add difficulty, but flare and aesthetic beauty to this event, for now they are able to develop further the art of flight. Also, speaking competitively, they are able to execute vaults of the highest point value.

The layout action requires greater usage of the body as a whole. That is, the muscles upon take-off, particularly in the legs and hips, are contracted to keep the body from relaxing or flexing at any given joint. No one segment plays a leading part, for the vaulter is propelled by overall extension of the body.

A regulated run or approach to the horse is needed to assure a proper take-off. Without a consistent approach, there is no consistency in the vault. Since more body propulsion is required in layout vaulting, the student will probably need to increase her running distance and speed over the approach utilized in the bent hip vaults. Also, the board should be further back from the horse. Since the vaulter is striving to completely extend the body, she should have to stretch for the horse. If the board is only a couple of feet away, there is neither time nor space to layout, and the student will have to lead with the hips to keep from overreaching the apparatus. A vaulter's board should be her body length's distance or more from the horse. Naturally the vaulter will not begin at this distance because need for distance grows only as the vaulter's skill and confidence grows. Therefore the board is set according to the student's level, but at the same time provides enough distance so the student can experience body extension, and so the feet have to leave the board before the hands contact the horse.

In landing from the hurdle, the knees are slightly bent, the arms down, and the body is anywhere from a slightly backward inclination to a vertical position. This type of landing favors an upward as well as a forward take-off. Often a vaulter will have too much of a

forward inclination on the landing, resulting in a direct horse contact. Such action eliminates flight from board to horse and leaves the shoulders too far back from the hands upon horse contact. By the slightly back or vertical position, the vaulter can stretch up and forward with the upper trunk as the legs push off the board and extend upward. The board take-off should be quick and sharp with a tightening of the hip and thigh muscles as the body strives for a fully extended position.

As the lower trunk lifts backward above the horizontal, the hands contact the top of the horse, the shoulders almost above the hands. Even upon contact the body does not give up the stretched or extended position. Often a student will tend, upon contact, to relax in the upper back and shoulders. This causes an overarching in the back area, which creates a difficult situation for the follow-through from the layout action.

In the handstand or handspring vaults, more body rotation should be experienced from the take-off. That is, more impetus is needed at take-off to allow the hips and legs to lift closer to the vertical position upon hand contact. There should never be a wait on the horse, only a momentary contact of the hands. If the legs are barely above horizontal upon hand contact, there is not only a wait as the legs rise to the vertical, but often a bending of the arms.

Push-off and After-flight

Even though the layout action is the main topic here, a few words should be mentioned in regards to push-off and after-flight. After the layout, the same push-off principle as the bent hip vaults applies with one exception. There is a quick whipping action as the hips go from an extended to a flexed position, allowing the legs to come down and over the horse. Kicking into a handstand on the floor and snapping down as the hands push off will enhance the student's learning of this action. For the vaults where the feet pass overhead, the body remains extended until landing. Action here is comparable to the similar tumbling skills.

Through films, pictures, and verbal descriptions, the student soon learns what is correct layout procedure but may have great difficulty in experiencing the desired action. As in any teaching situation involving physical skills, the instructor needs numerous ideas to get one point across to all. Therefore, in conclusion, perhaps some of the following suggestions might prove beneficial in presenting the layout action in vaulting to your classes.

1. To familiarize the students with the extended take-off, have them run and take-off as if they were actually going to vault over the horse, but have them execute just a layout jump from the board

to the mat. Such a jump will have them experience the upward and forward arm and shoulder swing, and tightening and extension of the hips and legs upon push-off. Stress height in the jump.

2. Before making actual horse contact, have each student support herself on the floor, shoulders almost above the hands as a partner lifts her legs off the floor to a level above the horizontal, keeping the back straight. This is merely the "wheelbarrow" tumbling stunt, but it gives the student an idea of the position she is striving to reach upon horse contact.
3. A springboard or mini-tramp might also be used in the learning situation. Often the vaulter will forget the take-off action, thinking only of "getting to the horse." With a springboard or mini-tramp giving extra height and spring, the student can have a short, slow approach until the layout technique becomes familiar. The spotter stationed at the side between the board and horse can help by lifting at the student's waist and thighs.
4. Layout vaults, like the stoop archway vault, are not necessarily lead-up vaults to the straight arm handstand vaults. Some students will find the seemingly more difficult handstand vaults easier. Certainly it will benefit the archway vaults by striving to jump to a handstand. If the instructor is easily able to handle the body weight of the students, she can stand facing the board in the area in front of the horse, slightly to the side of the center. The vaulter is lifted over the spotter's shoulder at stretched arm height to the horse. This might be similar to a swan lift in couple balancing. Although it may seem like too much assistance is given by the spotter, this is not so in a learning situation. By experiencing the flight, the student will know more what to strive for instead of continuing to work towards the unknown and perfecting poor habits.
5. After the student is reaching the horse with success, the instructor can stand to the front and side of the horse. With her arm stretched diagonally up, the student tries to reach over the extended arm in vaulting to the horse. This will help the student think of going up rather than directly at the horse. Also, at take-off have the student spot or focus at a point above the horse, reaching for that point before making eye contact with the horse.

Theory

Gymnastic's Basic Seven for Girls and Women

A. BRUCE FREDERICK
Wisconsin State University
Superior, Wisconsin

As any discipline grows and matures, there is an attempt to group fundamental concepts into broad categories. These are combined with sound philosophical principles to become that field's academic body of knowledge.

We shall be concerned here with a practical aspect of gymnastic academics. A great physical education leader, William Hughes, once said, "In order to instruct properly in any field, you must know what to teach and how to do it."

Dr. Hughes' challenge cannot be totally resolved in a single article. We shall therefore attempt to touch a little on the *what* and hopefully develop a significant area of the *how*.

Key Movement Themes

In this development, let us think about seven key gymnastic movement themes. These might be called gymnastics' basic seven for girls and women. Under each theme we will consider some practical applications of mechanics which are thought to be especially appropriate.

The basic seven were selected because they meet the criteria of broad applications to the total gymnastic offering. In some instances, each theme appears in one form or another in every aspect of gymnastics. Let us look at the basic seven collectively. It consists of–

1. The swinging group
2. The balancing group
3. The rotational group
4. The flexibility (supple) group
5. The vaulting group
6. The kipping group
7. The casting group

You say we missed one? Perhaps so. Add as many themes as you like. In so doing, you too will be establishing order in gymnastic thought. Once you are able to relate individual gymnastic stunts or specific movement tasks to a gymnastic movement theme, the resulting economy of time and effort will be your reward.

SOME DEFINITIONS

A few definitions are in order at this point. Get to know them well. They are basic to effective movement teaching, especially so in gymnastic instruction. Later on, having mastered the ideas here, consult Dyson[1] for a more comprehensive, yet thoroughly instructive treatment of applied mechanics.

Axes. An axis is an imaginary line about which a body or mass is rotated. The human body has three major axes. (See Figure 1). The whole body may be rotated about any one of these three axes, and all of them pass through the center of gravity of the body. In a position of "attention," one may be considered vertical while two are horizontal. The vertical or iongitudinal axis extends from head to feet and is known as the long axis. The two horizontal axes are shorter. The transverse axis passes from side to side; the medial axis passes from front to back. Other minor axes of the body are found at the joints. In gymnastics especially, axes may be noted at points on apparatus where the body hangs or is supported.

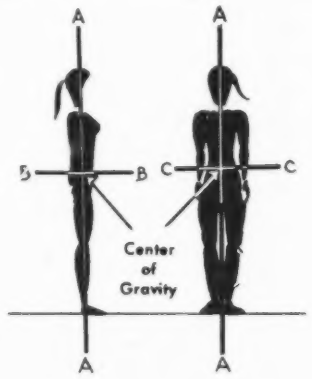

Figure 1.
Longitudinal Axis
(A-A)
Transverse Axis
(C-C)
Medial Axis
(B-B)

Gravity. Gravity is the force which pulls us toward the center of the earth. Generally speaking, our own weight is a measure of that pull. Due to gravity, falling objects, or more properly masses, have a directional speed (velocity) of 32 feet per second.

Dyson, Geoffrey. *The Mechanics of Athletics.* 2nd edition. London: University of London Press Ltd., 1963.

Center of gravity. With respect to regular geometrical solids such as the cube, the center of gravity is the exact center of such masses. The human body is anything but regular. The center of gravity for each individual will vary according to body build and other factors. The human body is capable of changing its shape and as it does so the center of gravity(C.G.) is constantly changing. Generally speaking, the C.G. for the human body is located slightly above one-half the height of a normal adult in the "attention" position. If the arms are raised, the C.G. is also slightly raised. For women, the C.G. is slightly lower than for men because of the distribution of weight and, theoretically speaking, the C.G. is often said to be located outside of the body proper. (See Figure 2.)

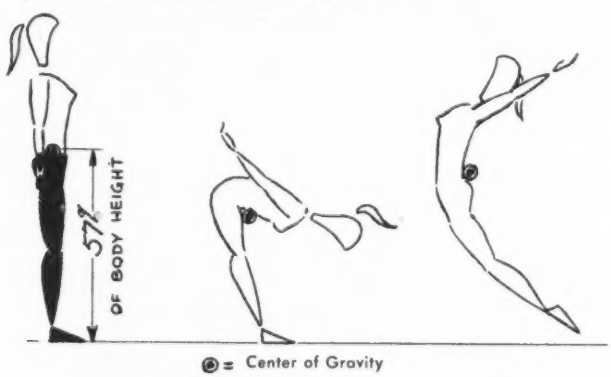

Figure 2.

Newton's Laws. The three basic laws of motion were given to us by Sir Isaac Newton over two centuries ago. These laws are fundamental to the study of forces which interact with the human body.

The First Law (Law of Inertia)–"Every body continues in its state of rest, or of uniform motion in a straight line, except insofar as it may be compelled by impressed forces to change that state." Motion of the human body is initiated or arrested by the application of one or several available forces. Internal force is supplied by muscle tissue; external forces are supplied by gravity, friction, and the resistance of air and water.

The Second Law (Law of Acceleration)–"The rate of change of momentum is proportional to the impressed force, and the actual change takes place in the direction in which the force

acts." In simpler terms, imagine you are coaching two tumblers, one of which is twice the weight of the other. The larger of the two will have to exert twice the force of the smaller to accomplish an acceleration similar to that of the latter.

The Third Law (Law of Reaction)–"To every action there is an equal and opposite reaction; or the mutual actions of two bodies in contact are always equal and opposite in direction." The application of this law appears quite frequently in gymnastic instruction.

Speed, velocity, acceleration. These terms are often confused. Speed is simply a measure of movement distance expressed in time with no particular relationship to a given direction. Velocity refers to the speed of an object in a given direction. Acceleration is a measure of a change in velocity. The latter is often expressed in feet per second per second. This simply means that for every second of time, a given velocity is speeded up by a known number of feet per second. An object traveling at ten feet per second at a given moment is found to travel 13 feet per second three seconds later. Therefore we might say that the object has undergone an average acceleration of one foot per second per second.

Motion. Generally speaking, motion is classified either as linear (in a straight line) or angular. Most human movement is actually a combination of the two types, with the angular type predominating. Movement about an axis, bony levers, and the parabolic patl. of our centers of gravity when we jump or are thrown attest to the angular predominance of human movement. Can you think of a gymnastic movement which is purely linear? For this reason we shall further define angular motion by defining some of its components.

Levers. When one applies a force to a lever, angular motion results in several ways. Every lever has a fulcrum or axis and two arms. One arm is known as the resistance arm; the other is known as the force arm. When the force arm is longer than the resistance arm, force is favored. Conversely, when the resistance arm is longer than the force arm, the lever favors speed and ranginess. Levers of the human body are usually of the latter type. Typical of a lever in the human body, we find a joint which acts as the fulcrum or axis. A short distance from one of the bones forming the joint we find the insertion of a muscle which supplies the force. Much further down the length of the same bone we will find the center of gravity. In some instances this distance may be ten times the distance of the force arm. Speed is therefore favored. A typical body lever is shown in Figure 3. In this lever, as in all others, the lengths of the force and resistance arms may be found by measuring the distance of each from the point of application to the fulcrum.

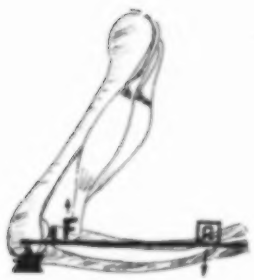

Figure 3.
Typical Body
Lever

Moments. A moment is the tendency to cause rotation about a point or axis. Any body imbalance will cause its parts to rotate. In contact with the ground, the body may develop a moment with virtually any given point as an axis. In the air, however, the body will tend to rotate about one or more of the three major axes described above. The length of the moment-arm, or lever-arm as it is often called, is calculated by measuring the perpendicular distance from the line of the action of the force to the axis. The line of the action of the force will pass through the center of gravity of the rotating part. In the human body this distance may be difficult to determine exactly because of its irregularity.

Moment of force. This is the product of the force (in pounds) times the lever arm. A force applied to the lever arm will have an ever-increasing turning effect as it gains distance from the axis. This is why a door knob is usually placed on the side of the door opposite the hinges.

Moment of inertia. This is a measure of the opposition which a body offers to having its state of rotation changed. In angular motion, the moment of inertia will be least when the mass in rotation is brought as close as possible to the axis. It is for this reason that the human body turns most easily about its long axis. A commonly used experiment is to have a person rotate in a standing position with arms outstretched and then suddenly bring the arms in close to the body. Since no additional force has been added, we assume the faster spin is due to a decrease in the moment of inertia.

Angular velocity. This is a measure of the speed of rotation. The measurement may be given in degrees per second. A full turn about the long axis in one second would mean that there would be an angular velocity of 360 degrees per second.

Conservation of angular momentum. Angular momentum is found by multiplying the moment of inertia by the angular velocity. Once in motion, and with no additional force applied, angular momentum remains constant if gravity can be discounted and there is no air resistance. Under these conditions, the only way we can affect a change will be to vary the moment of inertia of the rotating mass or body. For example, the force to initiate a back somersault in the layout position (layout back somey) might be used to perform a back double somersault. In the latter, the moment of inertia is decreased by folding the body into a tight tuck position. Two rotations are therefore possible instead of one, or we might say we conserved the angular momentum so it was possible to rotate the human body 720 degrees about its transverse axis rather than 360 degrees. Applications of the principle of conversation of angular momentum are numerous in gymnastics. Key applications will be discussed below.

THE BASIC SEVEN

The gymnastic movement categories which follow represent an attempt to describe keystones of this activity. Under each category, the writer attempts to do two things. First, there is an analysis of the scope of each type, and secondly, mechanical principles are discussed. Of the latter, only those principles having a major application to the movement category have been selected. Strength for strength's sake is not considered a gymnastic movement objective for girls and women. That strength is necessary for good gymnastic movement is certainly true, however. Particularly for the advanced woman gymnast, abdominal strength, grip strength, and overall good muscle tone are necessary. As such, this aspect of strength could have keystone implications. Therefore, strength is the silent partner of the girl gymnast. Unlike the male gymnast who must demonstrate dynamic strength to be successful, movements based on pure strength such as the "iron cross" are not encouraged or desired for girls and women. This will explain the absence of a strength category below.

The Swinging Group

Helmut Bantz, one of Germany's former Olympians and a noted instructor of gymnastics, has based recent gymnastic clinics under his direction on the theme, "He who can swing can do gymnastics." His reasoning becomes clear when we remember that our bodies

depend on force supplied through our predominance of third class levers which favor speed and ranginess. We are built for swing. When we fail to take advantage of this characteristic, our movements become sluggish, bumpy, and unaesthetic. Without swing, how could they be otherwise? A typical comment, "She muscled through that one," should remind us of certain ungainly performances we have witnessed in the past. Gymnasts also use the term, "swingtime," to describe a smooth combination of movements. Although the term is used primarily with trampolining, the application and meaning carries over to performances on the floor and apparatus.

To get good swinging movements, we must stretch properly. With a longer lever arm (moment arm), what little force we can generate or secure from gravity gives us greater momentum or, in short, swing.

Typical movements emphasizing swing are more common on apparatus, but basic principles of swing may be learned in the practice of floor exercises. Girls will develop good swinging movements on the unevens and on swinging rings. No support swinging is recommended for the latter, however.

In Figure 4, the reader will note three basic types of swinging movements on the unevens. These are, from left to right, the hock swing, the support-hang swing, and the hanging swing. Let your girls experiment with methods for reducing the moment arm during the performance of these swings, especially the hanging swing for beginners. As they tuck in the legs or pike the body, they will note

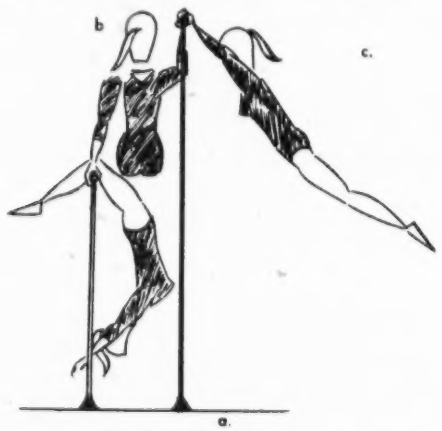

Figure 4.
Swinging movements on the unevens.
a. Hock swing
b. Hang-support swing
c. Hanging swing

an acceleration rotation which will give them ideas for movements preceeding or following the swing.

In any support type swing the rôle of the C.G. should be noted. The gymnast must attempt to keep the C.G. over or between the supporting base. This principle may be demonstrated to an entire class by employing a simple floor exercise shown in Figure 5. The drawing shows a single leg swing forward and backward. As the leg swings forward (dotted lines), the upper body moves rearward to keep the C.G. over the base support, in this case the right foot. Forward action of the head and upper body is noted as the leg swings backward (shaded parts).

Figure 5.
Leg swing forward and backward. C. G. is located at white dot.

The Balancing Group

Balance is necessary in the performance of every gymnastic movement and is not restricted only to those static balances, such as the handstand, which have become closely identified with the activity. A state of equilibrium is maintained by preventing moments to develop. The following six factors will have many applications in gymnastic balancing activity.

1. Is the C.G. over the base? If not, a moment will be created and a rotating tendency will be apparent. Muscular force may be able to offset such a moment, but it is more efficient to be mechanically in equilibrium.
2. Are you using the widest possible base? For example, the instructor should see that the fingers are spread in the handstand and that the finger tips are in full contact with the floor. Conversely, in some movements, the gymnast's ability to show that she can use a smaller base will improve the difficulty of a performance. A scale on the beam using the full base of the foot as

opposed to a base where the gymnast is up on her toes is an example.

3. Are you enlarging your base in the direction of the force? Applications in doubles tumbling and doubles stunts may be found. Particularly in spotting, the person standing in should be braced to offset certain forces created by gymnastic action. In spotting a vaulter, for example, one might take a stance with one foot behind the other if the vaulter is being spotted in line with the vault. (See Figure 6).

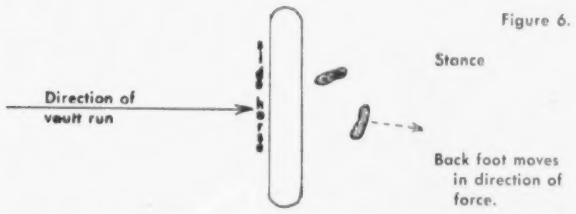

Figure 6.

4. When the C.G. shifts to one side, do you compensate by shifting a body part in the opposite direction? Ask your class to start in a position of attention. Then ask them to perform a sideward lean. By raising the right arm sideward, they will find that they can lean farther to the left. Then, by raising the right leg the lean can be increased. What else could be done to increase the degree of lean while maintaining equilibrium?
5. If the C.G. of the body is raised, stability decreases. The C.G. should be kept high in tumbling since controlled instability is highly desirable. A dramatic example of an application of this principle is to compare the knee scale on the beam with an ordinary front scale.
6. Rotary action increases stability. One need only think of a spinning top for a direct application of this principle.

The Rotational Group

In this special movement group let us think about gymnastic circles and portions of circles. What do the giant swing, popular with the men, and the knee circle have in common? Certainly not difficulty! All circle movements on a bar of some type, and to a certain extent on the still rings, have as a common element the need for an application of conservation of angular momentum. Selected for example purposes here is the "mill" circle which is often performed

by girls and women. (See Figure 7.) In all circles about a bar, gravity will help on the downward portion or half. Therefore, there is an attempt to create the longest possible moment arm. We may see this in Figure 7a. The girl stretches up and forward. The lead leg is also stretched and held high. Were the girl to attempt to complete the circle in this position without a change of some type, the movement would be impossible. In Figure 7b we see the point where gravity no longer is helpful as a force. From this point on, the gymnast must work against the very force that supplied the momentum—momentum which must be conserved if the movement is to be completed. We see at least three things in Figure 7c to indicate that the gymnast has attempted to reduce the moment of inertia and thus conserve angular momentum. First, the head is held forward instead of backward; second, the back is slightly rounded instead of hollowed; and third, there is a slight bend in the elbow indicating an attempt to bring the body closer to the axis of rotation which is, of course, the bar. The advanced performer may do the stunt so subtly that these movements go unnoticed.

Figure 7. The "mill" circle

Another definite help in this particular movement is the muscular force which is supplied through the lever of the extended legs. The use of this additional force helps to make the movement more artistic due to the fact that a more extended body position may be maintained.

The force supplied by a spotter is best applied at the position shown in Figure 7b. If there has been good extension in position 7a,

a gentle push between the shoulders is probably all that is needed. Attempt to apply these principles to other circular movements about the bar. Think of both complete circles and portions of circles.

A second group of movements in the rotational group are the twisting movements about the long axis of the body. A mass experiment which is effective is to have the entire class pivot on a single foot (pirouette), while quickly changing the position of an arm or leg from that of extension away from the body to a position in close about the long axis. The speed-up will be immediately noticed. Dyson's book on mechanics should be consulted for a more thorough treatment of twisting movements.

The Supple Group

Ideally, the gymnast is both supple and strong. We see these traits in outstanding international performers. The aspiring gymnast must usually concentrate training efforts on either one or both of these. We mentioned above that strength is the silent partner of the girl gymnast. Suppleness has a much more overt role. Many feminine gymnastic movements are simply impossible unless specific kinds of suppleness are developed. Some of these movements are walkovers, splits, aerial cartwheels, and backbends.

In general, suppleness is developed by a sustained and slow, rather than a jerky, bouncy, or suddenly applied, load to the joints in question. The gymnast should extend the parts involved in such a way that they slowly approach and go slightly beyond the point of noticeable pain. Such an extension is then held for several seconds, followed by relaxation of the parts. English coach G. C. Kunzle recommends the following for the development of suppleness:

1. Toe pointing
2. Splits (backwards, forwards, and sideways)
3. Back bending
4. Trunk pressing sideways
5. Hamstring stretching
6. Trunk rotation around the long axis (sitting)
7. Lowering and raising shoulders (shruging)
8. Gleno-humeral joint (In sitting position, partner grasps straight arms from the rear while placing knee in back of performer. Pressure is exerted slowly and steadily.)

Another value of good extension related to the mechanics of gymnastics is that it will help the gymnast to increase the length of a moment when this is desirable. One example is obvious from a film analysis of Olympians in the performance of the "mill" circle. (See Figure 7a.) These women have been observed to achieve a forward

extension in this position so that the knee of the stretched leg is very close to the chest and the legs are in splits.

The Vaulting Group

An excellent article on vaulting was presented in the 1963-1965 DGWS Gymnastics Guide and is reprinted here on page 46. In addition to the traditional vaults, we should also think of many tumbling stunts as belonging to this classification since there are similar elements.

Running must be mechanically correct. A poor runner will be a poor vaulter and tumbler. The development of moments away from the direction of the run result in a loss of speed and, in some cases, stability. An analysis of the forward handspring will pinpoint some of these common elements. The reader should follow up by attempting to relate them to other vaulting and tumbling movements.

In Figure 8a, the gymnast is shown performing the hop phase of the skip stem. (See Figure 8.) This has been preceded by an efficient run. During the hop, extension of the body will help to generate the speed necessary to lay out the handspring. Some of the Japanese male Olympic athletes will actually hollow out the back during this hop to increase the extension. (NOTE: In Figure 8a, the angle of lean should actually be more forward than shown.) Figure 8b is illustrative of a correct position at the start of the handspring. One long lever arm, extending from the hands to the foot of the kicking leg, will assure the gymnast the widest possible range of motion and will help maintain a high C.G. The point of rotation will be at the hands. In so doing, the C.G. is maintained behind the hands, thus permitting the body to be thrust upward in an aesthetic arc. When the C.G. is allowed to be ahead of the hands, the performer will land in a deep squat or perhaps on the buttocks. The kick of the trailing leg is shown in Figure 8c. This particular movement is often neglected. It is the source of additional force for the handspring and is an example of the transfer of force from one body part to another. This principle applies to the lead leg as well. We also will notice in Figure 8c that the hands are almost clear of the floor. In a good handspring, the upward thrust may lift the C.G. as much as six to eight inches. Finally, in 8d we see the position of the body just prior to landing. The landing will be light because of the high C.G., and in some performances the movement may be made with little or no noise. Force is absorbed in the ankle joint and knees. Note the extension of the arms and position of the head. Extension helps to slow down rotation and makes it possible for other movements to follow.

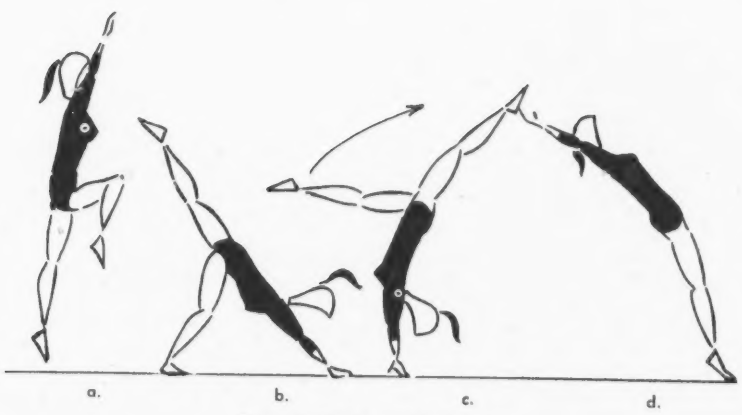

Figure 8. The forward handspring

The Kipping Group

Of all movements in gymnastics, the kip or kipping action is high on the list of primary stunts to be learned. All kips involve an explosive folding and unfolding of the body and are usually preceded by an extension of the body. There are two general classifications of the kip; one of these is the kip from a back lying position with hips flexed, while the other type may be classified generally as a swinging kip. Both types may be either forward or backward. Beginners should receive early instruction on kipping action. This is shown in Figure 9a-d. Figures marked "X" and "Y" are illustrative of the two directions (forward and back) to which this basic movement may lead. The figure in "Y" might simply turn over backward or attempt to hold a handstand. The action-reaction principle is evident.

The glide kip (Figure 10) is an example of the swinging kip from a hang. In 10a you will notice the complete extension from hips to hands. This is necessary to avoid a drop which will in turn cause the legs to fall unless the performer has exceptional abdominal strength. The regular pattern for a kip then follows. In 10b (shaded) the extension is nearing completion. An explosive pike is shown in 10c. When the C.G. is directly under the hands, the gymnast must attempt to reduce the moment of inertia. This is accomplished by "punching" the legs forward, taking care that the tops of the legs are in close proximity to the bar. As this is done, the C.G. approaches

Figure 9. Kipping action leading to kips forward and backward

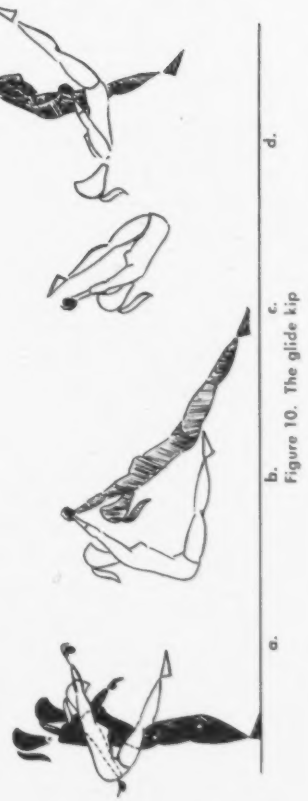

Figure 10. The glide kip

the axis of rotation increasing the momentum as the moment of inertia decreases. The reader will notice that another axis is created at the shoulder joint, and to be most effective, the arms must remain fully extended so that a pull will be felt from shoulders to hands. A prerequisite stunt for all swinging kips is the simple kip to upper arm hang on the even parallel bars.

The Casting Group

An infinite number of combinations are found in this group of movements. A majority of the possibilities are performed on the beam and unevens, but certain floor movements and certain vaults do contain elements of the cast. We think of a cast usually beginning in a support or modified support, very commonly a front support. (See Figure 11.) The legs are usually swung forward to initiate a backward swing. The swing of the legs is then transferred to the body at large (transfer of force).

Control of the casting group is dependent upon the position of the C.G. To dismount rearways, the C.G. must be held behind the point of support. If the gymnast would like to perform a movement in which a part or all of the body will be ahead of the point of support, the C.G. must be thrust forward.

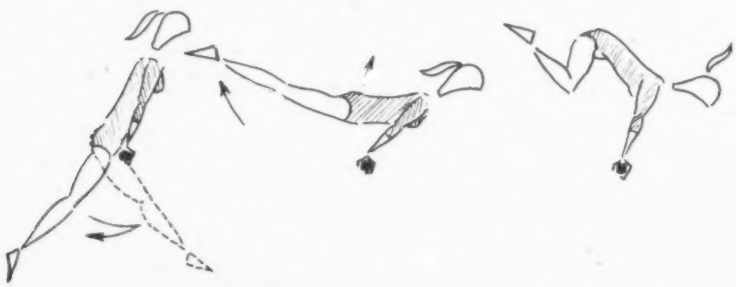

Figure 11.
Casting action on a bar

On the beam, cast movements typically start from a V sit. As the legs swing down, they straddle the beam and the cast is begun. It may lead to a forward roll, a dismount, a handstand, or simply a tucked stand on the beam. Imagine all the possibilities for the gymnast depicted in Figure 11.

Application of the Principles of Gymnastics

CAROLYN OSBORN BOWERS
Bowling Green, Ohio

In past guides, Miller defined the principles of gymnastics[1] and Nagy defined the compositional elements used in gymnastics.[2] Based on the information contained in these articles, the following principles shall be applied to 1) examples of specific techniques and 2) discussion of gymnastic composition.

GYMNASTIC TECHNIQUES

Totality is the involvement of the entire body, not just superficial use of the limbs in coordinated efforts. Every primary movement should be initiated in the torso. The current of the impulse from the torso spreads out through the limbs and seems to project beyond the limitations of the reality of body structure.

When the torso does not initiate movement, the movement appears to be stiff and without any definable quality. Movement becomes sectional; for example, the upper half of the body may begin a movement and the lower half is pulled along behind, or the arms may initiate a turning movement which goes out of control because the upper body pulls the center of gravity off the base of support. Perfect control is accomplished only when the performer initiates the spin with an impulse from the center of the torso. The muscles of the torso should be contracted and prepared. When this occurs, there should be a light lift and a balance of the turn. The body rotates around a vertical axis with the center of gravity over the base of support. Tight torso control allows the arms to move gracefully in a planned pattern rather than as two stiff appendages.

A leap without totality, without torso control simultaneous with the driving power coming from the legs, may look as if the upper body is lunging forward and up with a strained lift at the shoulder and neck. The legs will seem to swing up and forward then rapidly downward, pulling the upper body into a heavy landing and creating a definite break at the waist.

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[1]Miller, Margaret. "Principles of Gymnastics," DGWS *Gymnastics Guide:* 1963-1965.

[2]Nagy, Marta. "Basic Elements of Gymnastic Composition," DGWS *Gymnastics Guide:* p. 76, 1965-1967.

Total control may be described in a cast to a long hang swing on the uneven bars. The legs swing backward enough to begin the movement; the torso tightens and lifts backward as the arms push to extension; the full extension of arms and body is reached as the downward swing begins and the body moves as one piece toward the low bar. If there is no torso control, the feet will probably swing higher than the body with a big arch, the body will be pulled to full extension, the downward swing will be jerky and there will be too much force to control the movement which follows.

Rhythm is the natural and correct timing of each and every movement and is fundamental to gymnastics. Rhythm and action-rest have a significant interrelationship with regard to how well the body performs each movement and the planned combination of movements. Rhythm means more than a waltz pattern or a variation of locomotor speeds in a free exercise routine. The rhythm of the movement should ba analyzed and used as a teaching device.

Rhythm as timing may be felt or be heard. In timing the kip, body position is such that the ankles arrive at the bar on a slow count one; the lift of the shins and the rock of the hips move on the pause (count and); the hips continue to be brought upward to the bar and arrive at a front support position on count two. Timing is also the sound of a well executed series of flip-flops when the off-balance position, timing of the throw, leg thrust, body pull, and leg snap-through create a fast and even count, as the hands–feet–hands–feet–hands–feet hit the mat.

The rythm, sound, and technique for the forward handspring can be analyzed as follows: Correct technique will utilize a drive from the legs which move straight up in the air. The body will tighten and there is a lift of the body as the legs seem to pause and join the total unit of the body. The lead leg thrusts (count 1); the support leg extends (count and); the stretched arms are traveling rapidly toward the mat and hit (count 2); the stretched body lifts in the air with a tap from the hands (count and); the straight legs land (count 3). Incorrect technique will demonstrate a lack of specific thrust and leg extension. There will not be as much spearation between the legs for the legs usually begin and join together by count 1 and. The center of gravity is lower as the performer kicks to a handstand and then thrusts the legs. The legs kick over the head to land in a semi-squat on count two. Also incorrect in timing is the forward handspring which is a fast walkover with an even rhythm.

Amplitude is defined as the ability to carry any specific movement to its fullest dimension. After a movement has been initiated, it must carry through to its normal ending and dimension without inhibition.

Many performers combine this definition and the principle of naturalness into performance which feels comfortable or natural to them. Unfortunately, what feels comfortable does not always reach the possible perfection of the movement. A performer must not merely adapt a movement to her body. The normal ending of a movement is the furthest reach that the movement may take according to the direction of that particular movement. A leg must be extended as high as possible by a strong pull of a muscle group. Perhaps the muscles will have to be strengthened by training before the performer has the ability to carry the movement ot its furthest dimension. A simple swing with a straight leg will look poor if the quadriceps do not tighten to give the leg a true extension at the knee.

An arm movement without amplitude would be small, indefinite, and unexpressive. The same arm movement could move from an impulse in the center of the body to a very definite movement which has purpose and looks designed.

Amplitude in a leaping movement refers to sufficient height and the arc of the path of movement and the softness of the landing. With insufficient amplitude a leap would be low. The landing leg would drop to the floor too soon and the landing would not be light.

Every gymnastic movement can demonstrate amplitude. An eagle catch on the uneven bars can be an excellent example. As the arms throw upward and back to catch the high bar. the hips should push against the low bar. The direction of the movement indicates an arched position at the moment of completion. At the time of the catch there should be a definite extension of the legs straight back to complete the arch. If the legs merely hang, the movement is without amplitude; the move has not been carried to its furthest possible perfection.

Fluidity primarily involves the performance of a sequence of movements. In a singular movement totality and rhythm contribute to amplitude. The utilization of all three of these principles will establish the fluid execution of the singular movement. The ultimate gymnastic ideal is to be able to combine movements and execute each part of the sequence with one move flowing into the next without adjustment or awkwardness.

The performer will have learned one point of balance and timing which will allow her to execute a movement. When she learns to combine that movement with another she will have to learn the deviation on either side of that point of balance and timing which will still allow her to carry out the performance of the succeeding movement. The beginner will want to adjust between a roundoff and the backward handspring or she will wish to stop and adjust between a stem rise and a cast off to a long hang swing on the bars. As the

beginner learns these combinations she should have a spotter who will carry her through a poor flip-flop or catch the body before it jerks in an unextended cast off. Gradually she will learn the range of movement around the set pattern and will have the confidence and ability to work out of a poor situation.

The performer should keep her best combinations together and rearrange whole sequences rather than each movement when changing a routine. Fluidity will only be achieved by much practice–practice of the combinations and practice of the routine as a whole. The performer *must* have the stamina to perform the total routine as fatigue will lessen the range and fluidity of performance.

Each movement should become a transition of fluid motion. A cartwheel on the balance beam may become a method of attaining position for a smooth backward roll, even though the cartwheel is difficult in its own right. Each transition in the composition must be performed with elegance and meaning. Every gesture becomes important. Fluidity will be lost when the performer moves without design merely to get into position for one big trick.

Action-rest is the contraction followed by relaxation of the musculature. This has developed because of a desire for performances to be natural and genuine. It is not natural for the human body to be either relaxed or tensed at all times; therefore, a performer must know when to relax in a movement. Often a series of movements must be planned for this purpose. Five major elements of difficulty performed in a row would not be beautiful and the rules of composition actually give instruction for a variety of action and rest. Variety is a key word for rest but may also mean the change or rest from one type of rhythm to another. A change of quality in bodily movements is also indicated in rest, i.e., a rest from that which the body was performing. A performance which combines action-rest with ingenuity is far more exciting and impressive than one that does not utilize the principle of action-rest.

Gymnastic rest does not mean rest in a collapsed state. There will always be a certain amount of torso control. The beginner will probably tire and think of this torso tension as action. But these are moments of relaxation, compared with the mustering of utmost strength from all muscles involved in a movement. This can be demonstrated by having the student lie on her back, come to a V sit without using her hands, and hold it for a slow five count. At first she is collapsed, then she prepares her body to move to the V sit by tightening her torso slightly; finally her muscles contract with enough force to achieve the V sit position and hold it in control. The tension of preparation is almost always present in gymnastics performance, but it is contained in the torso while the arms move gracefully in a design.

A good performer executing a dive forward roll on the balance beam from a squat will utilize rest–action–rest–action. She will be in a state of preparation in the squat. The tight squeeze for control actually comes after the tuck when she grabs underneath the beam and is controlling the balance over the shoulders so her hip weight will not move out of balance and control. She may relax in the slightly tense state once balance is assured as she continues to roll the hips down, and she will have some additional contraction when coming to the squat stand position once more.

Rest during a major stunt is most easily seen in the transitional phase between moves. Activity on uneven bars appears to involve mostly action but there are transitional rests. In the combination of kip from the low bar to the high bar, cast to a long hang swing, backward hip circle on the low bar, and eagle catch, action-rest can be seen. There is action during the kip to the high bar. As the girl arrives in the front support, the feet are still slightly in front of the bar and there is a brief rest. As the feet are swung backward and the cast is lifted and extended away from the high bar, there is action. As long as total body control is maintained during the swing and backward hip circle (taking for granted the timing is correct) there is rest and preparation for the action into the complete eagle catch–with amplitude.

There are some movements which involve constant action for control, and a rest or change of body rhythm must be designed to follow such a series of movements. Teaching the student to relax in design without total collapse is a problem. In free exercise a performer will often execute a very difficult tumbling series under control and then look awkward in the execution of the combinations that follow. On the balance beam a performer will sometimes execute a difficult stunt and then lose her balance on some simple maneuver which follows, primarily because she relaxed too much. An example would be cart-wheel to lunge pose with an arm design and a reverse one half turn. It would be unfortunate to lose balance on a simple turn, yet complete relaxation in the pose will often lead to an unbalanced turn. There should be a rest during the pose. Time is given in this design to regain composure, but it should always be the slightly tense rest as the thoughts and the body prepare together for the turn ahead.

Naturalness is the principle which separates gymnastics from simple acts of contortion. It is the use of a whole spectrum of movement which demands variety from *each* performer. The reason for the gymnastics all around event and gymnastics rhythmic routines lies in total development on this entire spectrum of natural movement. Perfection in a movement may not seem natural to the beginner. Even the trained gymnast is not often satisfied with a total per-

formance. But the application of all these principles to each movement and to the composition as a whole offers the opportunity to the performer to feel freedom of perfect control and timing, freedom of perfection by discipline, and the wonderful satisfaction of a performance that moves the body rhythmically through the fullest possible expression of individual design.

GYMNASTIC COMPOSITION

Gymnastics demands the use of the principles and specific elements of composition in order to reach full expression in movement. the elements of composition are *variety, contrast, transition, balance, unity*, and *climax*. The beginner cannot possibly make use of all of these elements. Nor can the beginner apply all of the principles of gymnastics to each movement and combination. All of these things provide for an ideal goal.

In composition, each of the elements can be manipulated to build toward the ideal. Principles and elements of composition may be applied to any event. The apparatus or floor space provided should be fully utilized according to the nature of the event. Free exercise should be an ingeniously combined harmony of tumbling, dance, and transitional movements which will cover the entire floor space. An uneven parallel bar routine should combine swinging and circling movements which change direction, utilize both bars and combinations from bar to bar, glide under the low bar, and move the body up over the high bar. The balance beam composition should make use of the entire length of the balance beam while demonstrating the ability to leap, turn, roll, locomote, support by the arms, pose, and control the fluid use of arms, torso, and legs while on balance.

The beginner can move toward acceptable composition in any event by starting with variety, contrast, and transition. Variety and contrast will complement each other. Both can be aided by the use of different rhythms and speeds of movement. Amplitude applied to contrasting movements will provide a larger and more effective contrast. Action-rest will also add to variety and contrast.

Transition is most important at any level of ability. Each transition should be as important as any separate movement—even a difficult one. Gymnastics composition should never be merely moving into position for another big trick. All of the principles may be applied to transitional movement. *Totality, fluidity, amplitude, naturalness, rhythm,* and *rest* from action all contribute to effective transition.

Balance within the routine has begun to take shape as the first three elements are used. The beginner will probably still have a

majority of one type of movement. It may be a predominance of tumbling or dance in free exercise or it may be a lack of gliding movements on the bars. Still, the composition has taken shape for the beginner. Each of the first three elements should be continually stressed to reach toward better balance in the routine. Only with practice and gain in competence will the routine begin to look unified. Rhythmical use of the body (as opposed to rhythm), variety, fluidity, and amplitude of all movements will give unity to the composition. Confidence and presentation also add to the unified look of the routine.

The most difficult element of composition to use is climax. Only the better gymnasts are able to manipulate all of the elements of composition to reach a climax in performance. The total composition must build toward the climax. Many devices, such as contrast and full amplitude of an outstanding movement, may be used to reach the climax in a routine. Whatever is used should add to the interest of the entire routine.

The teacher who is dealing with intermediate skill level students may find composition and analysis of movement by application of gymnastic principles useful devices in creating incentive toward perfection and in eliminating a difficult progression to skills which are beyond the physical limits of the students. The total program may then be more satisfying to all involved, and progression toward difficulty may be placed in perspective with the student's development of readiness.

Conditioning and Discipline for Gymnastics

KITTY KJELDSEN

The recent popularity of fitness and athletic activity has made many people realize that women's gymnastics is a very beautiful, graceful, and feminine sport. But behind the seemingly effortless execution of specific moves lies a well trained and disciplined body.

Good tennis players almost invariably invest a substantial sum of money in a first rate racket which they keep in excellent condition, since they recognize its importance to good performance on the court. The same is true of serious field hockey players, musicians, and practically all others engaged in a sport or an art where an instrument plays a key role in execution or performance. Therefore, it is appalling to see how little consideration some young aspiring gymnasts give their main instruments—their bodies. Dancers are way ahead of gymnasts in this respect in having created a serious discipline for their art, and recognizing the importance of constant discipline. But the result of a poorly disciplined dancer's work is seldom more serious than pulled muscles or poor performance. A poorly trained gymnast is literally risking her neck. Many serious accidents can be traced to poor conditioning and lack of sufficient skills.

This situation tends to be most prevalent in schools where gymnastics is taught as one of many activities. The natural eagerness of youth to go on to more and more challenging stunts often leads to the tendency to overlook the need for proper strength, flexibility, and endurance. Often the lead-ups are cut short as time consuming extras. This situation might also occur when an over-eager coach wants to produce a high level team almost overnight. Besides taking chances on safety, these girls will almost invariably learn many bad performance habits and short cuts which will seriously hinder them in reaching their full potential.

OVER-ALL GYMNASTIC CONDITIONING

Good, over-all physical conditioning is the basic requirement for a well disciplined body in gymnastics with emphasis on the following:

- Proper weight control.
- Cardiovascular and muscular endurance.

- Flexibility–particularly in the hip (leg) and shoulder (upper back) region.
- Strength–particularly in arms, abdominal muscles and hip flexors.

Weight Control

Even a moderately overweight girl will seldom benefit fully from a good gymnastics program. She may develop enough strength and flexibility to handle her body to a certain degree, but her physical limits will become evident very early. Going beyond them will mean taking a much greater risk in safety than her slender counterpart. Every coach who has tried to spot a 150 pound (or more) girl in vaulting, or has seen her bend the uneven bars will know what is meant. One-hundred and fifty pounds in motion can create a tremendous amount of force which, if applied the wrong way, could cause considerable damage to the human body as well as to the apparatus.

We know from physics and anatomy that body is composed mostly of third class levers which favor speed but are very inefficient as far as strength is concerned. The amount of extra strength needed to move an additional pound of body weight is incredible. What about the girls in your clas or on your team who are five, ten, or even 15 pounds heavier than they should be?

Cardiovascular and Muscular Endurance

Endurance is often neglected on the theory that it will develop along with the skill. But a tired performer is likely to take short-cuts in skill and execution, thereby developing bad performance habits and increasing the chances for injury. We have all seen girls who are too tired to finish an exercise well. Much can be lost by taking the chance and gains seem very small in comparison.

Flexibility

Flexibility tends to deteriorate faster than any other phase of condition, especially with girls in their early teens. From then on, the time required for "stiffening up" seems to become shorter. The sad part of it is that often the skill is retained but flexibility to execute it correctly is lost. This occurs most often with skills requiring shoulder and upper back flexibility. A girl who did walk-

overs easily at seven or eight years of age may try them again in the gymnastics class in the ninth grade. Since her shoulders and upper back have become a great deal stiffer she will force her arch out of the lower back. Yes, she can still execute a walkover but if her teacher or coach does not notice the shift of flexibility and the resultant strain placed on lower back and allows her to go on, sooner or later lower back trouble can force her out of gymnastics or even out of the entire physical education program.

Strength

Incredibly, lack of strength *seems* to be the least dangerous of all four fitness components because, in many instances, if the girl lacks proper strength, she simply cannot execute the move. However, bad performance habits can be acquired by improper substitution of naturally strong muscles for weak ones. And a girl who is determined to execute a certain move at any cost, ready or not, is likely to take high safety risks. Since different events in gymnastics make different demands on the body, conditioning should be geared to over-all development. Although each girl can perform some activities better than others, time should be spent on those in which she is weak in order to bring all events to the same level of performance.

CONDITIONING FOR SPECIFIC EVENTS

Vaulting

The basic requirement for this activity is the ability to run well, using a sprint type of run. Too many girls run on their heels, wiggle the hips in the process, or use an extremely inefficient arm motion. Going out for track during the spring season can be a great help in developing running skills if the school has a good track coach.

Just as important as running is the ability to execute a long hurdle and quick ankle action on takeoff from the reuther board. This can be practiced with boards in front of mats. Two girls may hold a piece of rope in front of the board about two feet from the floor, allowing the vaulters to jump over it after leaving the board. Rope jumping or any form of lively jumping in one place is good exercise for ankle action.

A good vaulter should also be able to handle her body in the air without loosing her sense of direction. Tumbling and trampoline activity are very useful here.

Uneven Parallel Bars

Activity on the bars requires strength and courage. Lack of sufficient flexibility will become a hindering factor mainly in advanced work; therefore many strong but inflexible girls are successful in their first attempts on the bars. Strength in relation to body weight is the crucial factor here. If the girl is overweight she must either develop more strength or lose weight. A combination of both is probably the best way. Following are a few sample exercises for developing strength:

• Arm Strength

1. Start with modified "girls' push-ups" executed from hands and knees. Then go on to the second half of "boys' push-ups." Allow the girls to get to "up" position the easiest way possible making sure that the lowering phase is done slowly and with straight body, contacting the chest first. Proceed to regular push-ups and gradually increase the required number or speed of performance.
2. Practice pull-ups, again working from modified girls' type, to assisted boys' type, to full pull-ups.
3. Work with horizontal ladders or traveling rings. Rope climbing can also be helpful.

• Abdominal Strength

Practice sit-ups of various types, preferably with knees bent in order to minimize help from hip flexors unless the objective is to strengthen both equally. *Example.* Perform sit-ups with partner holding down the ankles. After the girl can already execute a good number of conventional sit-ups (50 or so), a bigger load has to be placed on the muscles either by increasing the rate of performance or making sit-ups more difficult. *Make sure that the girls are "curling up" with rounded backs and not using lower back muscles to compensate for weak abdominals.*

• Hip Flexors and Abdominal Strength *(The exercises given here are primarily for hip flexors but will at the same time also make use of abdominals provided the latter are strong enough.*

1. Hanging Leg Lifts

Step 1. Start in a hanging position, pull knees up to chest, hold, slowly lower the legs. Repeat.

Step 2. Pull knees up to chest, straighten to L position, hold, lower straight legs to hang, repeat.

Step 3. Bend from hips, raise straight legs to L position, hold, lower slowly, repeat.

Step 4. Raise straight legs beyond horizontal until you can touch the bar you are hanging from. Lower slowly. Repeat. *(Make sure your girls do not get help from a preliminary swing. It should be a lift from stationary hanging position.)*

2. Snap-Ups

Start from supine position, arms along the sides. Snap to a bent knee V sit, bring knees to chest, then lower body back down, keeping the heels 1 or 2 inches off the floor. Repeat. *During the entire exercise the arms should be kept inactive. They should not help in pushing off the floor.*

FLOOR EXERCISE AND BALANCE BEAM

Floor exercises and balance beam activities are quite similar. Therefore, though reference will be mainly to floor exercise, the conditioning could just as well be applied to balance beam. Many girls learn tricks or stunts on the beam before they have sufficient skill and balance to walk, run, or skip on it gracefully. As a result, the routines are unsteady or ungainly. There is no substitute for spending at least five minutes to half an hour (depending on the situation) on the balance beam simply walking, running, skipping, turning, etc., before going on to other skills.

Floor exercise requires the greatest amount of over-all conditioning and cardiovascular endurance. The following are exercises for endurance and flexibility:

• Endurance

Sustained running (stationary or traveling), hopping, skipping, or similar activities can be used. For variety, the exercise can be done to music with a fast beat, increasing the duration as the students progress. Rope jumping is also helpful and can be done to music.

• Shoulder and Upper Back Flexibility

1. Lower the balance beam to waist height of the average girl in class. Have students place their hands and lower arms up to the

beam, then back away so that their backs are parallel to the floor with hips bent at 90 degrees. Heads are up, looking at the beam. A partner should stand next to each student pressing down at the convexity of the girl's upper back. At first the bouncing motion is beneficial. Later it should be a continuously increasing sustained pressure.

2. Have girl push into a back bend from the floor. She should try to straighten her elbows and rock her shoulders over the heels of the hands, so that the biggest arch comes from the shoulders and upper back. Later, a sustained push from the legs should bring shoulders *beyond* the hands and keep them there for a short time. Elbows straight, heels on the floor, knees almost straight. Have the girl lift her head as far up as possible looking at the ceiling or the far wall while keeping the pressure on shoulders and upper back.

• Leg Flexibility

Any form of toe touching or sitting and reaching in various positions is a good start. To get most benefit out of the stretch, have the girls keep their lower backs straight and heads up. By rounding the lower back and dropping the head one will gain the impression of being able to go much lower but the stretch on hamstrings is greatly reduced, and many good acrobatics teachers consider the rounded position bad for the lower back. Emphasize that the chest should touch the knees or the ground first, then the chin. Again, sustained stretch is more beneficial than bouncing in later stages.

• Leg and Hip Flexibility

1. Use the same waist height balance beam (or the rim of the trampoline for taller girls). Have students face the beam and lift one leg up on it. Make sure that the hips remain parallel to the beam (there is a great tendency to stand partially turned), both knees are straight, and the leg on the beam is turned out with a strongly pointed toe. Have girls lift hands up over their heads and bounce over the raised leg, backs straight, heads up. Then sustained pressure.
2. The same exercise can be done sidewise. Make sure that the hips are at right angles to the beam and the leg is lifted as far to the side as possible. Both knees should be straight and the leg on the beam turned out so the knee is facing the ceiling. Point toe. Lift arms over head and bounce sidewise. Later sustained pressure.

3. Do not forget stretches in split positions, both forward, back, and sidewise. Exercises for stretching ankles in order to obtain better forms are also plentiful in the world of ballet.
4. Other very good exercises are stretches in attitude position—slow leg lifts, developé, etc. Space does not permit an explanation here but a ballet teacher or book can be of great help.

Competition

Coaching Extramural Gymnastics

ANDREA BODO SCHMID
San Francisco, California

Many people believe that training for a beginner or intermediate gymnast should be different from training for an advanced competitor. This is not so. Certainly there are differences in difficulty level of exercises, in teaching methods, and in the training load but the basic principles are the same for each group. The fundamentals of coaching extramural gymnastics will be outlined and explained with examples. From this outline the teacher can make adjustments to fit her situation.

Schedule

Program planning begins with the schedule of demonstrations and competitions which motivate the gymnast to work regurarly. Beginners should have one or two, intermediates three or four, and advanced four to eight competitions yearly. Do not plan more, otherwise the gymnast is hindered in learning new movements and combinations, and in improving her optional routines.

Training Cycle

After the schedule has been worked out it sould be divided into several cycles. Each cycle is then divided into three parts, namely, preparatory part, main part, and competition session.

CYCLE 1

Preparatory Part (September). During the session the emphasis is on conditioning exercises and learning single exercise elements. This part should improve the gymnast's strength, flexibility, endurance, and skill.

Main Part. (October-November). During this session the objective is to practice the skills already learned, to learn new compulsory routines, and to enrich the optional exercises.

Competition Session (December). In this period the gymnast should work on complete exercises, both compulsory and optional, so she will be prepared to compete.

CYCLE 2

Preparatory Part (January)
Main Part (February-March)
Competition Session (April-May)

The beginning gymnast needs more time to prepare for a meet or demonstration, therefore, she should have only one cycle in a year. Example:

Preparatory Part (September-October)
Main Part (November-March)
Competition-Demonstration Session (April-May)

THE ADVANCED GYMNAST

The advanced gymnast will begin her preparation in September, utilize October and November for the main training and then follow a longer competitive schedule. Her schedule may end with one of the various regional or national meets.

THE COLLEGIATE SCHEDULE

The competitive schedule for college teams may vary with the collegiate semester or quarter. The collegiate gymnast should begin her training cycle to allow for adequate training time as outlined in the above cycles. Training cycles may be structured around the design of the competitive schedule.

Regular Workouts

Daily practice is the best but you may have successful results with three days of workouts per week with homework given on the other days. In selecting the exercises for homework consider the following:

- Exercises which do not need apparatus and can be done in as small an area as six to eight square feet
- Exercises which can be tested later for improvement, i.e., those which the student will be unable to do perfectly without practicing
- A routine which is about 10 to 15 minutes long
- Exercises which can be done with music. Music puts the student in a good mood and helps her to do the exercise in rhythm

- Exercises which improve the entire body in terms of flexibility–prepare the gymnast for splits and limbers; strength–strengthen arm-shoulder and abdominal region; endurance–run in place lifting knee high for two minutes to improve cardiovascular efficiency; and skill–turn 360 degrees from standing jump. Practice this in both directions.

The homework should be changed each month. A weekly schedule may look like this:

Monday: School workout
Tuesday: Homework exercises
Wednesday: School workout
Thursday: Homework exercises
Friday: School workout
Saturday: Homework exercises
Sunday: Rest.

These home routines besides helping the gymnast in her gymnastics, will also have an important educative effect on making daily exercise an automatic way of life. Almost daily practice is needed to learn difficult skills and to preserve high skill level which, once attained, needs continual effort to be maintained. Remember–a high level of skill requires years of practice but can be destroyed in a very short time.

Endurance Training for Competition

Gymnastics differs from many other sports because the gymnast has to perform many different types of exercises and combinations on various apparatus. She has to master *all* required apparatus exercises to succeed in competition. If one particular apparatus is difficult for her she should spend more time on this than on the others.

The gymnast's endurance is peculiar. She needs her strength only for a short time in each exercise, but to do a short routine without form breaks requires a lot of practice. Endurance is specific in gymnastics and can be increased only by practicing the combinations and the routines. Half of the routine should be done first, then repeated with another movement added. This pattern is repeated until the whole routine can be done in good form without stopping. When the entire exercise can be done without too much stress, try another one without resting. Top gymnasts are able to repeat complete routines three or four times.

The workouts should always start with a general warm-up period and then continue with a special warm-up on the first apparatus. The gymnast should warm up on each apparatus with a few exercises before starting her complete routine.

The apparatus order should be changed at each workout period. This will accustom the gymnast to various apparatus orders and

enable her to begin with any event in competition. Apparatus order in the workouts may be like this:

	BALANCE BEAM	UNEVEN BARS	VAULTING	FLOOR EXERCISES
Monday	1	2	3	4
Wednesday	2	3	4	1
Friday	3	4	1	2
Monday	4	1	2	3
Wednesday	1	2	3	4
Friday	2	3	4	1

The gymnast should do special flexibility and strengthening exercises at the end of each workout. This part of the workout should be left out at one or two trainings before the meet.

Psychological Coaching for Competition

Frequently a gymnast performs much better at workouts than in competition, a situation which indicates faulty coaching. The gymnast should not overestimate the meet or the abilities of other gymnasts at the risk of her own self-confidence. Often the gymnast will change her routine at the last minute and leave out a difficult part because she lacks confidence. Although the exercise may be less difficult because of the change, the new combination is frequently performed in poor form since it was not practiced. The coach must train the gymnast to do the same routine in the meet as was practiced in the workouts. If the gymnast is not 100 percent certain of a given stunt in her exercise she should plan combinations to follow the stunt if she misses it, otherwise she will be confused and unable to continue her routine smoothly. An original and difficult routine executed with small mistakes will get more points than an exercise which is stereotyped but perfectly performed.

A good procedure is to develop a competition atmosphere during workouts to prepare the gymnast for competition. Each girl in the group should perform her routine as planned for the competition with the teacher as judge. It is also very helpful to have the gymnasts participate in a demonstration before the meet to accustom them to an audience.

Mental rehearsal of the exercise is very good before competition. The gymnast should think through her entire routine just before her

turn. This will give her self-confidence and warm her up for the event.

The teacher should be able to encourage her student in the competition when she seriously needs help. Don't let the gymnast become frustrated and discouraged, the meet is not over until the last event.

Each gymnast should be made to feel that she is an important asset to the school team. This will motivate her to work harder, to improve, and to do her very best.

Checklist for Gymnastic Competitions

JERRY F. HARDY

The following are some of the items to be borne in mind when planning and arranging for a gymnastic competition. Not all of these will apply in every instance, of course. The list is prepared to anticipate requirements ranging from a simple dual meet to a championship of major importance.

Advanced Preparations

Check to see that there is no conflict with other competitions or affairs to be held in the gymnasium on the dame date.

If the competition is to be an open meet (invitation of outside organizations), apply for a sanction from the United States Gymnastics Federation.

Prepare an entry blank for the competition, reviewing it for complete, accurate, and current pertinent information. Mail out entry blanks to all who may be interested in competing, well in advance of a closing date. Entries should close no latter than a week before the competition to allow sufficient time for such preparations as scoresheets and scheduling of events.

If awards must be ordered, decide on the quality, cost, and design of medals or other prizes, and arrange for their delivery before the date of the competition. Follow through on this important detail.

Appoint committees and personnel to handle the following:

Publicity	Moving of apparatus as required
Finances	
Ticket sales	Clerking details
Ushering	Announcing

Plan the physical layout of the apparatus on the gymnasium floor to provide for a rapid transition from event to event with a minimum of moving and shifting of the apparatus and mats.

Prepare necessary scoresheets.

Facilities and Equipment

Arrange for adequate and clean dressing rooms and shower facilities.

Check the condition and safety of all apparatus and equipment; clean and dust out mats.

Ensure that the public address system is in working order.

If possible, provide warm-up apparatus and facilities adjacent to the field of actual competition.
Mark out the area for the floor exercise event (12 meters x 12 meters).
Provide chairs for judges, clerks, and flashers, and small tables for the use of the superior judges.
Arrange for a reserve area with chairs and tables for scoeres, the technical committee, referee, and other officials.
Provide for committee meeting rooms.

Supplies

Most important: a first aid kit.
Ample supply of magnesia (chalk).
Powdered resin for horse vault and floor exercise events.
Fine sandpaper or emery cloth and a short ladder available for cleaning excess magnesia off uneven parallel bars.
Tape measure in both metric and linear measures, if possible, to check measurements (heights, etc.) of apparatus.
Two tenth-second sweep synchronized stopwatches to time the optional balance beam and floor exercise events.
Clipboards or stiff cardboard backing, pencils, and scratch pads for officials.

Keeping the Spectators and Competitors Informed

Plan, prepare, and post a list giving the order of events and of each competitor.
Provide a method of posting or announcing each competitor's score promptly, either by the set of flash cards or an announcer.
Flash cards will be used only to show the average score of the four active judges as stated under rules and regulations. Time and line violation deductions are also subtracted before flashing the average score. A card stating that a time or line violation has been subtracted is helpful to the audience.

Suggested Officials

Director of competition
Technical referee
Two superior judges
Two sets (four) of active judges
Two secretaries for superior judges

A flasher for each flash card used
Chief scorer and four assistant scorers
A clerk for each event to expedite the competition, alert the competitors to their order of competition, and to expedite the running of the meet
An announcer
Assistants to move the apparatus as required and keep the floor clear of all except competitors and necessary officials
A medical attendant

Suggestions for Meets of Major Importance

Provide facilities for training and workouts of competitors for about a week before the meet.
Send out advance information to competitors and officials about items such as lodging, meals, training facilities, competitive conditions.
If the competition consists of more than one session during the day, i.e. morning, afternoon, and evening sessions, try to arrange facilities for meals for competitors and officials so that they will not be unduly delayed between the sessions.
Provide numbers for identifying the competitors.
Arrange facilities for holding judges' and officials' courses prior to the competition, and a gymnasium to demonstrate both compulsory and optional exercises.
Hold briefing sessions with all working officials and assistants, particularly those who will handle the flash cards, to instruct them in their duties.
Invite local dignitaries and honorary officials.

Suggestions Regarding a Printed Program

List of officials:
  Honorary officials
  Supervising officials
  Officials of the competition
  Administrative personnel assisting at the competition (announcers, medical personnel, etc.)
  Committee members
Order of events
List of competitors, with first names, identification numbers, affiliation, and events in which entered

Provide a scoresheet for keeping progressive scores.
Provide for listing of final results in each event.
Include a brief informative article describing the requirements of the competition, how it is judged, and the method of scoring.
Include as many action photographs of competitors as possible.

Dual and Triangular Competition and Team Scoring Procedures

KITTY KJELDSEN
SHARON WEBER

Madame Villancher, chairman of the Women's Technical Committee of the Federation of International Gymnastics, stated that the "international order of events and guidelines concerning meet organization should be followed in high-level national and international competitions. However, they might be completely unsuitable for lower level meets. Each country should work out its competitions which will best meet the needs of the participiants and the goals of that particular country."

The success of any meet depends largely upon the premeet planning and the effectiveness of all meet personnel for speed and efficiency. In order to function efficiently, championship or large invitational competitions must follow a proven structure. These meets should adhere closely to FIG guidelines. (See both Rules and Principles and Techniques of Officiating sections). The circumstances surrounding a dual or triangular meet are flexible and may be determined by the schools or associations involved. Meet scoring procedures may be altered somewhat to accommodate the needs and wishes of the participating teams.

Early plans for a competition will involve consideration of 1) the amount of time available; 2) the experience of the judges; 30 the number of routines that may be performed and judged within the time available; and 4) the number of gymnasts per team.

Dual and Triangular Competition

1. *Preplanning*

When the arrangements are made, all coaches should be notified of any irregularities in facilities and equipment to be used. The participating teams should send their line-ups to the hostess school at least three days prior to the competition. Any necessary changes in the line-up can be made before the start of the meet.

2. *Running Time*

A dual meet, using one set of judges, takes approximately 2½ hours. To figure more precisely, one can expect to judge 30 performances during a 2½-hour period. The following information can be utilized in working out a time schedule:

Floor Exercise
Vaulting
Balance Beam
Uneven Parallel Bars
} approximately 5 minutes per routine including judging time.

Time must be allowed for moving equipment. Equipment diagrams and planned placement of stored apparatus will speed this aspect. During an intermission (see #6 order of events), the gymnasts should be allowed a one-minute warm-up for each of the last two events. A timer may be needed to allow a warmup for all participants within the alloted intermission time.

If possible, two sets of judges should be used for triangular meets in order to complete the competition within a reasonable time. Meets which last much over three hours become an endurance marathon for competitors, judges, and spectators.

3. *Number of Judges*

Dual and triangular meets should attempt to use five judges, one of whom is the superior judge. If this cannot be done, one of the scoring judges may act as the superior judge.

When four judges are used, the high and low scores are eliminated and the middle two scores are averaged. When fewer than four judges are available, all scores are averaged together. It is recommended that there be at least two judges per event when circumstances are less than ideal.

4. *Number of Entries per Team*

The number of gymnasts from each team to compete in each event should exceed the number of scores that will count for the final team totals (for example, six entries using the highest four scores per team; five entries using three scores per team; or four entries using three scores per team).

5. *Order of Competitors*

Girls from opposing teams compete alternately in the individual events. The home team usually competes first in the first event. Each team should have equal opportunity to be first and last in other events to compensate for any advantages or disadvantages in placement during competition.

6. *Order of Events*

The order of events may be determined by the participating teams. The following is one recommendation for dual and triangular meets:

1. Floor Exercise
2. Vaulting

   Intermission (10-20 minutes for warm-up on last two events)
3. Balance Beam
4. Uneven Parallel Bars

Tumbling and trampoline, if held, are special events and should be run either before the first or after the last event of the meet.

7. *Team Score*

In dual and triangular meets, it is not necessary to designate participants in each event whose scores are to be totaled for the team score. The highest scores of the top three or four participants from each team should be used. The reason for this is to give each girl an equal opportunity to positively influence her team's total points without placing undue stress on any one person.

Tumbling and trampoline are scored separately and generally have no effect on team totals. If the participating teams arrange to have these special events count toward team totals, they may do so. This should be planned in advance.

8. *All-Around Score*

In meets featuring optional and compulsory routines, all eight scores earned by a girl make up her all-around total. When optional routines are the only routines performed, the total of four scores earned by a competitor is her all-around score. All-around does not include the team points, but rather is an event which brings recognition to the best all-around gymnasts.

Specific Needs for Each Event

Floor Exercises

a. A well marked area
b. Tape recorder, record player, or piano
c. Timer with a bell, whistle, or other signal that she can sound at 1 minute, 30 seconds. (The signal should be heard above the music.)

Vaulting

a. Horse, Reuther board, mats
b. Rubber runway cover, if one is available
c. Someone to announce the vaults. In dual meet situations it is often more interesting to have the announcer call out the vaults, giving their difficulty values as well.

Balance Beam

a. Beam, mats, Reuther board
b. Timer with a signal that she can sound at 1 minute, 40 seconds and again at 1 minute, 45 seconds
c. Another timer to dime the duration of falls.

Uneven Bars

a. Bars, mats, Reuther Board
b. Timer to time the duration of falls.

Interpretation of FIG Rules for Women's Gymnastics

SHARON K. WEBER

August 10-13, 1970 the International Gymnastics Federation offered its first judging course in the United States. It was held in Long Beach, California. The following information was compiled with use of the most recent materials and knowledge of the international rules.

General Rules

The competition is judged by four judges plus one superior judge. The superior judge's score is not counted unless the middle two scores or the average score is out of line according to the FIG point spread for preliminary or final competition. Of the four scores sent in, the high and low scores are dropped and the middle two scores averaged. If the middle scores are out of range, the superior judge calls a conference and gives her score. The middle score furthest from the score of the superior judge must adjust to fall within the appropriate range. The average score must also be within range with the score given by the superior judge. If the average score is out of line with the superior judge's score, the gymnast's score is computed after consultation in the following manner:

1. The two middle scores are averaged.
2. This average score is added to the score of the superior judge.
3. This total is divided by two to arrive at the final or *base score* for the gymnast. This score is flashed.

FIG Point Differences

Preliminary Competition

Superior Judge's Score and/or Average Score	Range
9.5 - 10.0	.30
8.5 - 9.45	.50
Below 8.5	1.00

Final Competition

9.5 - 10.0	.20
8.5 - 9.45	.30
7.0 - 8.45	.50
Below 7.0	1.00

Duties of a Judge

1. Every judge should be present 30 minutes before the competition.
2. She may not talk to anyone during the competition and may not leave the chair until there is a complete change-over in events.
3. There may be no smoking.
4. A judge cannot be a coach at the same time she is judging.
5. A judge must stay neutral and take no notice of the audience.
6. She cannot be influenced by the name or reputation of a gymnast but must judge on the performance.
7. One must be consistent throughout the competition.
8. She must be completely knowledgeable of the compulsory routines, difficulty as in the *Code of Points,* and FIG point breakdown.

Duties of a Superior Judge

1. If a routine is overtime or undertime, she subtracts the penalty from the final score (final average).
2. In floor exercise, if there is a line fault, she subtracts the penalty from the final score.
3. She judges each performance but shows her score only if scores are out of range.
4. After the first performance in preliminary competition for each event, she calls a conference to check scores and to establish a common base for the event.

Regulations for the Conduct of the Gymnast and Coach

1. The gymnast should present herself to the judges, especially the superior judge before and after each routine. If she does not present herself there is a .2 deduction.
2. Correct attire is required. No transparent leotards or improperly fitting leotards. There is a .3 deduction from the final all-around score if incorrect attire is worn.
3. The gymnast must wait to begin her routine until the judges are ready and a signal is given. If she does start prior to the signal, she cannot begin again and she is not scored.
4. No warm-ups may be taken during the judge's conferences. The penalty is .5 if there is extra warm-up.
5. If there is a fall from the apparatus, the girl cannot walk away from the apparatus to get chalk; the chalk must be readily available.

6. The coach cannot signal to the gymnast (penalty .3) or talk to her (penalty .5) during the exercise. She is permitted to talk to the gymnast between the two vaults.
7. The coach must not block the judge's view during a performance; however, there is no penalty. The coach should be informed of the blocking and be asked to refrain from such actions.

Compulsory Routine Point Breakdown

Compulsory exercises for floor exercise, balance beam, and uneven parallel bars are worth 10 points and deductions are by tenths of a point. Only one execution is allowed. The 10 points are divided as follows:

4 Points for Composition

Exactness in following prescribed text	2.0
Exactness in direction and floor pattern	0.5
Exactness in the rhythm of exercise	1.5

6 Points for Execution

Sureness of the execution	1.5
Amplitude of the movements	1.5
Elegance of the gymnast	1.0
Coordination of movements (arms, trunk, legs)	1.0
Lightness of exercise (jumps, acrobatics)	1.0

Deductions by Category	Penalty
Exactness in following the text 2.0	
Small changes not facilitating the execution	.1
Easy part reversed	.2
Acrobatic element reversed	.5
The entire routine may be reversed without penalty	
Changes facilitating the execution or reversing parts	.2-.5
Omitting a medium difficulty	.5
Omitting a superior difficulty	1.0
Exactness in floor pattern 0.5	
Small directional errors	.1-.2
Larger errors (an entire pass or a combination of moves off direction)	.3-.5
(The total deduction cannot exceed .5 for this area)	

Precision of the rhythm 1.5
- Musical accompaniment not as indicated 1.0
- Music too slow or pianist aiding gymnast 5

Sureness of Execution 1.5
- General form breaks (refer to Table of General Faults in FIG Code of Points)
- Small faults (slightly bent ankles, loss of balance, low leaps, heavy landings, etc.) 1-.2
- Medium faults (noticeable ankle bend, knee bend, very low leaps in a series of passage, etc.) 3-.4
- Serious faults (45^{o} bend at ankle, knees, elbows, large straddling of legs, big loss of balance, no height in leaps or tumbling for a whole passage with a major difficulty or for whole exercise, etc.) ..... .5 and up

Amplitude 1.5
- "Bigness" of movements and swings, stretch of body, height of tumbling, height of swings and length of pendulum in swings. Do not double penalize under sureness 1-.5

Elegance 1.0
- Presentation and showmanship 1-.2
- Grace and beauty of performance 3-.4
- General attitude of exercise ..... .5 or up

Coordination (arms, trunk, legs, head) 1.0
- Errors in single element or combination 1-.2
- Errors in entire pass or group of combinations 3-.4
- Errors throughout ..... .5 and up

Lightness of Exercise 1.0
- Heavy landing (jumps and tumbling) or hitting bar heavily 2

Optional Routine Point Breakdown

Optional exercises are scored from 10.0 with deductions by tenths of a point. Balance beam, floor exercise, and uneven parallel bar routines may not be repeated. The 10 points are divided as follows:

6 Points for Composition of the Exercise
- Difficulty 4.0
- Originality and Value of Combinations 1.5
- General Composition (Structure) 0.5

4 Points for Execution

Execution	1.5
Amplitude	1.5
General Impression	1.0

Difficulty 4.0

Each routine must contain six elements of difficulty (2 superior difficulties and 4 medium difficulties) to earn the entire 4 points. For each superior difficulty missing the judge deducts 1.0 and each medium difficulty missing deducts 0.5. A gymnast may substitute superior difficulties for medium difficulties but not the reverse; for example, 4 superior difficulties fulfill the requirement but not 8 mediums. Refer to the FIG *Code of Points* for a list of difficulties in each event.

If a difficulty is repeated within a routine, it is only given credit once unless it is executed in a different manner or combination. A difficulty that is nearly completed before a fall is given credit for the difficulty and deducted for the fall. However, a half completed difficulty is not given credit.

Originality 1.5

An original routine is always something extraordinary, uncommon, surprising, or in other words rare. A routine that is original the first time it is seen should be judged as original every time the same judge sees the routine. Although the routine and movements should be original, they must also be typical for the apparatus and practical for the routine.

Each routine needs beautiful, fluent combinations not just difficulty. Superior difficulties should be placed throughout the routine and the combinations must be equal in value to the difficulties.

Specific deductions for originality

Poor, masculine routine	up to 1.5
Lack of difficulties results in lower value of combinations according to the number omitted	.1-.3

Composition 0.5

This involves the entire structure of the routine. It should be dynamic and rhythmic using all the characteristic elements for the specific event. The mount and dismount (or the first and last pass in floor exercise) should correspond in difficulty value to the rest of the exercise.

Technique of Execution 1.5

The general and specific deductions are the same as in the Compulsory Breakdown. The technique of execution and sureness of execution are interdependent.

Amplitude 1.5

Good technical execution with the best stretch and fullness possible in an element or combination.

General Impression 1.0

Within this portion one deducts for lack of beauty in movement – elegance, posture, carriage, presentation, and appearance.

Uneven Parallel Bars

The routine begins when the feet leave the board or when the hands or body hit the bar, if no board is used. The routine must be continuous, dynamic, and rhythmic showing changes of grip, bar to bar changes, change of direction, and variety in movements. Static positions of support, standing, or sitting should be very short and a required part of a combination or element rather than a stop. If used as an extra segment, it should be penalized as a stop. A maximum of two pauses is permitted for concentration just before very difficult elements.

The dismount must originate from a manual handgrasp but the hips may be the last body part to contact the bar. If the gymnast falls, she must remount within 30 seconds or her exercise is considered finished. During the 30 seconds she may use the chalk or adjust her handguard.

The exercise may not be repeated unless there was some fault in the equipment or a technical error in the meet. One supplementary run and takeoff for the mount is permitted if the gymnast does not touch the bar or pass under it.

In optional competition each team member must use a different routine from the compulsory including a different mount and dismount. Within a team each competitor must have an exercise that differs from the others on her team. Entire sections of a routine cannot be repeated from one exercise to another. Single elements can be the same but not combinations. A deduction of .3 for not complying is taken from the final team score. Rather than repeating elements within an exercise the elements should differ.

Penalties Specific to Bars

1. Fall on the floor or on the bars 1.0
2. Release of one hand without supplementary support 0.5
3. Release of one hand with supplementary support 1.0
4. Missed mount with a run under or touch of bar 1.0
5. Extra swing 0.5
6. Repeating missed element 0.5
7. Coach between bars 0.5
8. Coach touches gymnast (accidental or assist) 1.5
9. Coach supporting just on lending 0.5
10. Small brush of foot on the bar or floor 0.1
    A little heavier touch 0.2
11. Unecessary pause in execution 0.2
12. Same mount or dismount as compulsory 0.3
13. Mount &/or dismount not in keeping with difficulty of exercise 0.1-0.5

Balance Beam

The exercise should be dynamic and flowing with great continuity among the elements of balance, turns (full and half), jumps, leaps (large and small), running steps, and acrobatics. Great amplitude, rhythm, and originality are necessary for an exercise including the use of the entire beam.

Difficulties should be spaced throughout the exercise and a maximum of three pauses used. A routine need not have any stops. Any movement in which the legs or torso do not continue moving is considered a stop. Support movements should stretch to show the element and move right on or they will constitute a stop.

If a fall occurs, the gymnast is permitted 10 seconds to remount. The routine will be terminated if she exceeds that time limit.

The balance beam exercise duration should be between 1:20 and 1:45. The time starts the moment the feet leave the floor or beat board. The time stops at the end of the exercise when the feet touch the floor. A warning signal is given the gymnast at 1:40 and a final signal given at 1:45. If the gymnast is in the air when the final signal sounds, she is not penalized for overtime.

Penalties Specific to Balance Beam

1. Fall on floor or beam 0.5
2. Support of hands on beam 0.5

3. Touch of beam with mounting 0.5
4. Touch of beam in loss of balance 0.3
5. Movements of trunk to maintain balance 0.3
6. Movement of arm or leg to maintain balance 0.2
7. Support of foot or leg on side of beam 0.4
8. Jump without amplitude 0.2
9. Unsure turns 0.2
10. Monotonous rhythm 0.2/pass
11. Monotonous rhythm throughout 0.5
12. Exercise too short 0.05/second
13. Exercise too long 0.3
14. Coach walking up and down beside beam 0.3
15. Excessive stops (more than 3) 0.2/stop
16. Fall to the floor on dismount 1.0
17. Coach assiting on landing 0.5
18. Coach assisting during exercise 1.5
19. Repeating a missed element 0.5

Floor Exercise

This is the most impressive of the four events. The gymnast can really show her gymnastic knowledge. The routine must take into consideration graceful moves showing the gymnast in ballet movements, acrobatics, as well as gymnastic moves with the full use of the music to accompany these. A good choice of music can show a well composed exercise. The time limit is 1:00 to 1:30. The first signal is given at 1:25 and the final signal at 1:30. The time begins with the first movement of the gymnast and stops with the final pose.

The music must be a single instrument. The selection should suit the temperament and personality of the gymnast and should enhance her performance. The music may start before the gymnast does, but music and gymnast must end together.

Floor exercise uses acrobatic elements, dance movements, and gymnastic combinations. It is necessary to use the entire floor area in the choreography of the routine. There should be a show of expression that is free and natural. The gymnast should LIVE IN THE MOVEMENT AND THE MUSIC.

Penalties Specific to Floor Exercise

1. Fall on floor 1.0
2. Touch of hand to floor to avoid fall 0.5
3. Repetition of missed element 0.5
4. Beginning routine in ballet position 0.2
5. Beginning of exercise missed by personal error 1.0

6. Musical accompaniment not regulation 1.0
7. Music not adapted to exercise 0.5
8. No harmony between end of exercise and music . 0.5
9. Fault in rhythm during exercise 0.2/time
10. Turns on flat foot (general deduction for optionals) 1-.2
.3-.4
.5 or up
11. Running many steps into tumbling (more than 3 steps) 1-.2
12. Gymnast outside area ..... 0.1/each time
Entire pass outside area 0.2
13. Exercise too short 0.05/second
14. Exercise overtime 0.3
15. Coach on floor area 0.5
16. Execution of back somersaults: (each time)
Under head level 1-.2
Under shoulder level 3-.4
Bad body position 2

Vaulting

Compulsory Point Breakdown

The vault has a value of 10 and is divided as follows:

Preflight 2.0
Repulsion (Push Off) 2.0
Afterflight 2.0
Position of body during vault 2.0
Direction of vault 0.5
General balance of vault 1.5

*Penalties for Compulsory Vaulting**

Application of "0" score to a compulsory layout vault:

1. If a horizontal or bent hip vault is executed resulting in insufficient elevation or degree of preflight, the valult will *not* be scored "0".
2. It *will* be penalized according to the specific deductions given in the listing of faults for that specific compulsory vault. It will not be penalized by 0.5 for performance of the wrong vault.

*USA Penalties and Regulations.

Layout vault performed at the horizontal ..... 1.0 deduction
Layout vault performed below the horizontal (piked) ..... 3.5 deduction

3. The vault *will* be scored "0" if an entirely different vault is executed:
   a. For performance of a stoop vault when a form of the straddle or squat is required.
   b. For performance of a straddle vault when a form of the stoop or squat is required.
   c. For performance of a squat vault when a form of the straddle or stoop is required.

Application of penalty for insufficient elevation of a compulsory horizontal vault:

Horizontal vault performed with bent hips .....2.5 deduction

Application of "0" score to a compulsory vault executed with higher elevation. Example: Compulsory – horizontal squat; executed – layout squat

1. The vault *will not* be scored as "0".
2. The vault *will not* be credited for the greater preflight.
3. The vault *will* be penalized by 0.5 (to encourage performance of the exact compulsory vault).

Optional Vaulting

The same categories can be used to judge the optional vaults, but each vault has its own point value determined by its difficulty. Therefore, the point breakdown for each category cannot be used as it is for compulsory vaults.

General Characteristics and Regulations

All vaults must be performed with the hands placed on the horse. The gymnast is given two executions of the same or different vaults and the better of the two scores is counted. One supplementary run for the two vaults is permitted provided the gymnast does not touch the horse on one of them. The gymnast must announce her vault in advance.

One step in the direction of the vault is authorized upon landing so long as the step is in balance. The coach may stand on the descent side of the horse but not between the board and the horse.

All vaults can be categorized into three types.

1. Horizontal vaults (layouts and lower vaults).
2. Vertical vaults (handstand and cartwheel).
3. Twisting vaults; a) twist during preflight, b)twist during afterflight, c) twist in both phases.

The two main phases of a vault are preflight and afterflight. The preflight consists of:

1. Takeoff – position, arms, shoulders, legs, trajectory, lift of body

2. Arriving on the horse – position of hands, arms, shoulders, hips, and legs

The afterflight consists of:

1. Repulsion – energy forces of push off, vitality of the reaction
2. Balance of second flight as compared to first according to vault executed
3. Stretch and extention of body during afterflight
4. Descent – balance on floor
5. General direction of vault
6. General balance of vault

*Penalties for Optional Vaulting**

The gymnast must announce the optional vault to be performed by selecting the corresponding jump number according to the International Table of Vaults and then show the card to the judges. Calling the vault to the superior judge would be sufficient, unless otherwise specified. If a different vault is performed, the superior judge will announce the point value on which all judges must base their score.

Vaults over 9.0

If the called and performed vaults are two different vaults, the vault performed will be the basis for the score. A 0.5 deduction will be taken from the value of the vault performed.

Vaults 9.0 and Under (Straddle, Stoop, Squat)

The gymnast will call the vault "with designation of the type of preflight (layout, horizontal, bent hip)". The vault executed will be scored according to the specific point value of the vault performed. If the judges do not agree as to the degree of elevation, the decision of the superior judge will dictate.

Point values for vaults 9.0 and under:

Straddle	Layout 9.0	Horizontal 8.0	Pike 5.5
Stoop	Layout 9.0	Horizontal 8.0	Pike 5.5
Squat	Layout 8.5	Horizontal 7.5	Pike 5.0

*USA Penalties and Regulations.

Material complied with use and reference to "FIG Code of Points"– Available through: USGF Office, Box 4699, Tuscon, Arizona 85718.

0.5 point will not be deducted for performing the vault with a higher elevation than called. Deduct 0.5 only if an entirely different vault than the vault called is executed.

a. For performance of a stoop vault when a form of the straddle or squat is called.
b. For performance of a straddle vault when a form of the stoop or squat is called.
c. For performance of a squat vault when a form of the straddle or stoop is called.

Specific Penalties

Vaults through the inverted stretched support (handstand)

1. Insufficient flight between the board and the horse ..... up to 1.50
2. Body bent during flight ..... up to 0.50
3. Body bent before the inverted support ..... up to 1.00
4. Using force to establish the support ..... up to 1.00
5. Arms completely flexed throughout entire vault 2.50
6. Stop in the inverted support 0.30-0.50
7. Omission of passing through the vertical 1.00
8. Releasing the hands too late 0.30-0.50
9. Alternate repulsion of the hands ..... up to 0.50
10. Insufficient repulsion and afterflight 1.00-2.00
11. Poor direction of the vault ..... up to 0.50
12. Arms, shoulders, trunk not in same line 0.50
13. Arriving on the floor heavy and uncertain 0.20
14. Arriving on the floor out of balance ..... up to 0.30
15. Touching the hands on the floor 0.50
16. Supporting the hands on the floor 1.00
17. Fall on the knees 1.50
18. Fall on the hips (pelvis) 2.00
19. Fall out of balance with support of body against the apparatus 1.50
20. Coach between the board and the horse 1.00
21. Aid by coach during the vault ..... (vault is voided)
22. Aid by coach on landing on floor 2.00

Vaults Horizontal (specific penalties of that vault)

1. Body underneath the horizontal at moment of hand contact 3.50
2. Body just as horizontal (USA) 1.00
3. Body slightly above horizontal ..... up to 0.50

4. Straddling the legs too soon (straddle vault) or squatting (tucking) the legs too soon (squat vault) . . . . . up to 0.50
5. Flexing the legs (stoop vault) . . . . . up to 1.00
6. Omission of the stretch of the body in second flight 2.00
7. Touching the horse with feet . . . . . up to 0.50

Vaults Requiring Turns (specific penalties)

1. Lack of continuity . . . . . up to 0.50
2. Tardy repulsion of hands 0.50
3. The turn in second flight is completed after the feet are placed on the ground 0.50

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